ORDER NO. EMID0103012A0

A5

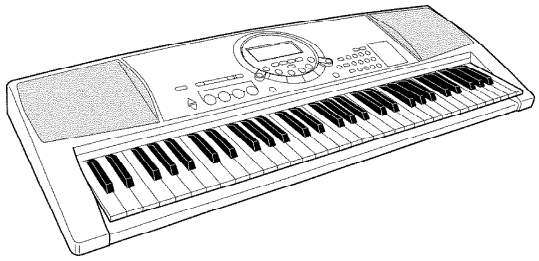
Service Manual

PCM KEYBOARD

SX-KC211

(P) U.S.A.
(PC) Canada
(PY) Mexico
(EX) Norway, Sweden, Denmark, Finland, Spain, Portugal, Greece, South Africa
(EZ) Germany
(EG) Switzerland, Italy, Austria, Holland, Belgium, France
(EB) the United Kingdom
(GN) Australia, New Zealand
(XS) Malaysia, Singapore
(XT) Taiwan
(X) Thailand, Indonesia, U.A.E., Columbia, Panama, Chile, Brazil, Philippines
(XA) Argentina
(XD) Saudi Arabia, Hong Kong, Kuwait

Please file and use this manual together with the service manual for *Model No.SX-KC200, Order No.EMID0003003C0.*



SPECIFICATIONS

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KEYBOARD	61 KEYS (WITH INITIAL TOUCH)
SOUND GENERATOR	PCM
MAX. POLYPHONY	24 NOTES
SOUNDS	150 SOUNDS
EFFECT	TOUCH, SUSTAIN
HARMONY	10 TYPES
TRANSPOSE	G - C - F#
RHYTHMS	100 RHYTHMS
RHYTHM CONTROLS	SYNCHRO START, START/ STOP, COUNT INTRO, FILL IN, TEMPO
PARTY PADS	4 PADS, 4 BANKS
AUTO PLAY CHORD	MODE: ONE FINGER, FINGERED, PIANIST
MUSIC TRAINER	BEAT MASTER(TRAINING, CHALLENGE), CHORD FINDER, PIANO STYLIST, SOLO PIANO, MINUS ONE, 100 SONGS
CONTROLS	MAIN VOLUME, APC/SONG VOLUME, ONE TOUCH PLAY, EXECUTE, MENU
DISPLAY	CUSTOM LCD (WITH BACKLIGHT)
DEMO	Supported
TERMINALS	MIDI IN, MIDI OUT, FOOT SW, PHONES/LINE OUT, AUX IN
OUTPUT	5 W (2.5 W × 2)
SPEAKERS	12 cm × 2
POWER REQUIREMENT	DC IN 10 V (WITH EXCLUSIVE AC ADAPTOR)
POWER CONSUMPTION	4.4 W (WHEN POWER IS OFF BY THE PLAY BUTTON: 2 W)
DIMENSIONS (W×H×D)	96.0 cm × 14.6 cm × 37.8 cm (37-25/32” x 5-3/4” x 14-7/8”)
NET WEIGHT	5.1 kg (11.2 lbs)
ACCESSORIES	AC ADAPTOR, MUSIC STAND, SONG BOOK

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic®

1. SIMPLIFIED GUIDE

This manual mentions the revisions of original Service Manual SX-KC200.

- Measuring Condition
- Schematic Diagram (MAIN, FAJ)
- Printed Circuit Board (MAIN , FAJ)
- Replacement Parts List
- Cabinet Parts Location
- Packaging

The other items are refered to original Service Manual.

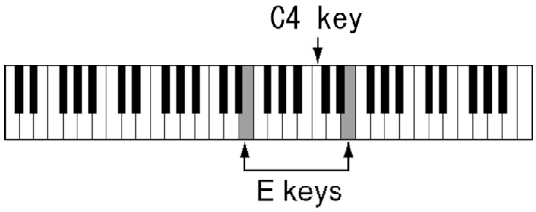
2. MEASURING CONDITION

2.1. Measuring condition of MAIN P.C.B.

Check Point 2 - 5

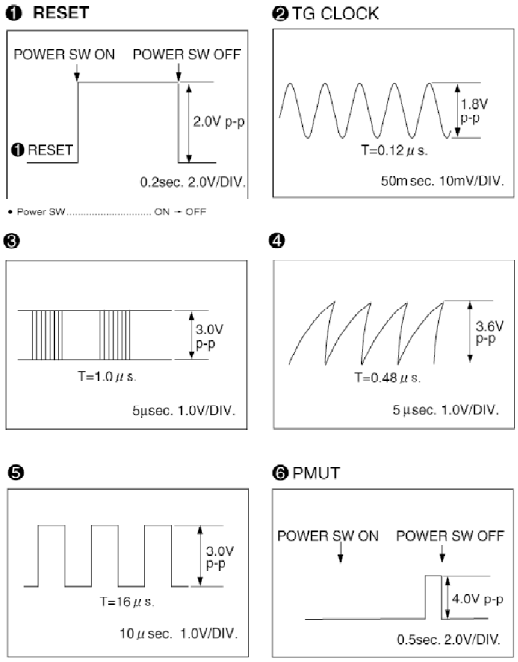
Set to the Self-diagnostic Mode followings.

- While pressing two E keys simultaneously, turn on the power switch.
- MAIN VOLUME: Max.
  (Insert the headphone jack into PHONE/LINE OUT.)
- Keyboard: C_4



Check Point 1and 6

Set to the Initial mode (refer to “OWNERS MANUAL”).



2.2. Measuring condition of FAJ P.C.B.

Check Point 1 - 4

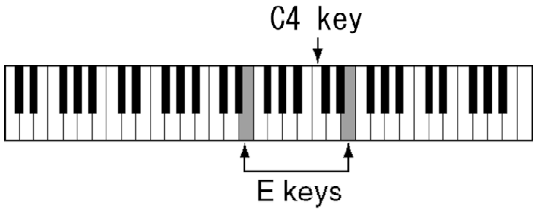
Set to the Self-diagnostic Mode followings.

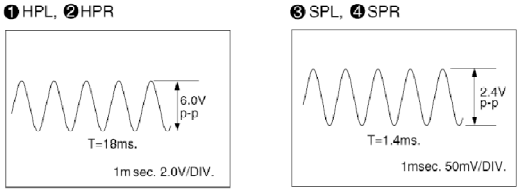
- While pressing two E keys simultaneously, turn on the power switch.

- MAIN VOLUME: Max.

(Insert the headphone jack into PHONE/LINE OUT.When you measure “3 SPL” and “4 SPR” ,turn the MAIN VOLUME down and pull out the headphone jack.)

- Keyboard: C_4





3. SCHEMATIC DIAGRAM

4. PRINTED CIRCUIT BOARD

4.1. MAIN, FAJ P.C.B.

5. REPLACEMENT PARTS LIST

Notes:
***Important safety notice:**
Components identified by ⚠ mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.
***Warning: This product uses a laser diode. Refer to caution statements.**
***ACHTUNG: Die lasereinheit nicht zerlegen. Die lasereinheit darf nur gegen einc vom hersteller spezifizierte einheit ausgetauscht werden.**
***Capacity values are in microfarads (uF) unless specified otherwise. P=Pico-farads (pF), F= farads (F)**
***Resistance values are in ohms, unless specified otherwise. 1K=1,000 (OHM), 1M=1,000K (OHM)**
***The marking <RTL> indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retentionperiod of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.**
***"<IA>"-"<II>" marks in Remarks indicate languages of instruction manuals. [<IA>: Dansk, <IB>: English, <IC>: English, <ID>:French, <IE>: Germany, <IF>: Italiano, <IG> : Espanol, <IH>: Nederlands, <II>:Chinese]**
***MAIN, FAJ, BLED, RLED, MKB1, MKB2 and MKB3 in Remarks indicate the Circuits and P. C. B.s. If the same Ref. No. is found in the replacement parts list, check those indications in the Remarks.**
***[M] indicate in Remarks columns parts that are supplied by MESA.**
***[SPC] indicate in Remarks columns parts that are supplied by SPC.**

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	QGPG0148HB	CONTOROL PANEL	1	[M]
2	QGMG0026AF	PUNCHING NET(L/R)	2	[M]
3	SHSG1970A	KEY FELT(UPPER/LOW)	2	[SPC]
4	QMWG6014CAK	KEY SWITCH(13KEY)	1	[SPC]
5	QMWG6015CAK	KEY SWITCH(12KEY)	4	[SPC]
6	QMRG1034CA	BACKLIGHT COVER	1	[M]
7	QMGG064CA	RUBBER CONTACT	2	[M]
8	QSLG027AB	LCD	1	[M]
9	QMRG1032EA	BACK LIGHT COVER	1	[M]
10	QMRG2096AA	LIGTH SPREAD SHEET	1	[M]
11	QGPG0149EB	LCD PANEL	1	[M]
12	QKWG038AD	LCD WINDOW	1	[M]
13	RFKJXKC211-P	BOTTOM CABINET ASS'Y	1	P ONLY[M]
13	RFKJXKC211PC	BOTTOM CABINET ASS'Y	1	EXCEPT P[M]
14	QGUG1487AD	BUTTON A	1	[M]
15	QGUG1488AD	BUTTON B	1	[M]
16	QGUG1494AD	BUTTON H	1	[M]
17	QGUG1490AD	BUTTON D	1	[M]
18	QGUG1491AD	BUTTON E	1	[M]
19	QGUG1492AD	BUTTON F	1	[M]
20	QGUG1493AD	BUTTON G	1	[M]
21	QMRG5235AA	LEG FELT	4	[M]
22	QMRG1033BA	LIGHTING CHIP	1	[M]
23	QHDG064AA	SCREW	5	[M]
24	XYE3+FG12	SCREW	3	[SPC]
25	QMRG2099AA	REFLECTION SHEET	1	[M]
26	QEXGVH02052A	SPEAKER WIRE (R)	1	[M]
27	QASG12P09A	SPEAKER UNIT	2	[M]
31	QMWG1030AAK	WHITE KEY (4KEY)	5	[M]
32	QMWG1031AAK	WHITE KEY(3KEY)	4	[M]
33	QMWG2004AAK	BLACK KEY (5KEY)	5	[M]
34	QMWG1031BAK	WHITE KEY(5KEY)	1	[M]
35	XTB3+10JFZ	SCREW	20	[SPC]
36	XTB3+20JFZ	SCREW	41	[M]
37	QHDG065AA	SCREW	35	(E)[M]
38	QGNGKC211MA	NAME PLATE	1	P,PY[M]
38	QGNGKC211CA	NAME PLATE	1	PC[M]
38	QGNGKC211EA	NAME PLATE	1	EX EZ EG EF[M]
38	QGNGKC211KA	NAME PLATE	1	EB[M]
38	QGNGKC211SA	NAME PLATE	1	X XS XT[M]
38	QGNGKC211DA	NAME PLATE	1	XD[M]
38	QGNGKC211AA	NAME PLATE	1	GN[M]
38	QGNGKC211XA	NAME PLATE	1	XA[M]
39	QMRG5226AA	URETHAN TAPE (B.B.D)	1	[M]
40	QMRG5227AA	URETHAN TAPE (B.B.D)	1	[M]
41	QGAG2017AB	MUSIC RACK	1	[M]
42	QPFG090AA	MUSIC RACK BAG	1	[M]
43	QFAG016BA	AC ADAPTOR	1	⚠ X XS XT[SPC]
43	QFAG018BA	AC ADAPTOR	1	⚠ XD[SPC]
43	QFAG033AC	AC ADAPTOR	1	⚠ P PC PY[M]
43	QFAG035AB	AC ADAPTOR	1	⚠ EX EZ EG EF[M]
43	QFAG034AB	AC ADAPTOR	1	⚠ EB[M]
43	QFAG036AB	AC ADAPTOR	1	⚠ GN[M]

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
43	QFAG026BA	AC ADAPTOR	1	⚠ XA[M]
A1	QQTG0596A	INSTRUCTION MANUAL	1	P<IB>[M]
A1	QQTG0597A	INSTRUCTION MANUAL	1	PY EX X XA<IA><IG>[M]
A1	QQTG0598A	INSTRUCTION MANUAL	1	PC PY EX EB X GN XS XD<IC>[M]
A1	QQTG0598A	INSTRUCTION MANUAL	1	XT XA<IC>[M]
A1	QQTG0599A	INSTRUCTION MANUAL	1	PC EG EF<ID>[M]
A1	QQTG0600A	INSTRUCTION MANUAL	1	EZ EG<IE>[M]
A1	QQTG0601A	INSTRUCTION MANUAL	1	EG<IF><IH>[M]
A1	QQTG0602A	INSTRUCTION MANUAL	1	XD<II>[M]
A1	QQTG0604A	INSTRUCTION MANUAL	1	XT<IJ>[M]
A2	QQTG0547A	SONG BOOK	1	[M]
A3	QQCG0394A	REFARENCE GUIDE	1	[M]
A4	SJP5213-2	PLUG ADAPTOR	1	⚠ X XT ONLY[SPC]
A5	RQCB0831	SERVICENTER LIST	1	P ONLY[M]
A6	QQAG016A	WARRANTY CARD	1	P ONLY[M]
A6	RQX7433ZA	WARRANTY CARD	1	GN ONLY[M]
A7	QQAG021A	USER CARD	1	P ONLY[M]
A8	QQAG018A	REQUEST WARRANTY CARD	1	EB ONLY[M]
C1	ECEA1HKS010	50V 1U	1	FAJ[M]
C1	ECJ1VG1H471J	470PF	1	MAIN[M]
C2	ECJ1VG1H471J	470PF	1	MAIN[M]
C3	ECEA1CKA470	16V 47PF	1	FAJ[M]
C3	ECJ1VG1H471J	470PF	1	MAIN[M]
C3	ECKT1H223ZF	50V 0.022U	1	MKB1[M]
C4	ECFR1E104ZF5	25V 0.1U	1	F1C1E1040003 FAJ[M]
C4	ECKT1H223ZF	50V 0.022U	1	MKB2[M]
C5	ECKT1H223ZF	50V 0.022U	1	MKB2[M]
C6	ECEA0JKA470E	6.3V 47U	1	MKB2[SPC]
C7	ECFR1E104ZF5	25V 0.1U	1	F1C1E1040003 FAJ[M]
C8	ECEA1HKS010	50V 1U	1	FAJ[M]
C8	ECJ1VG1H471J	470PF	1	MAIN[M]
C9	ECA1CM221	16V 220U	1	FAJ[SPC]
C9	ECJ1VG1H471J	470PF	1	MAIN[M]
C10	ECCR1H221J5	220PF	1	MKB1[M]
C10	ECEA1CKA470	16V 47PF	1	FAJ[M]
C11	ECCR1H221J5	220PF	1	MKB1[M]
C11	ECEA1CKA470	16V 47PF	1	FAJ[M]
C12	ECA1CM101	16V 100UF	1	FAJ[SPC]
C12	ECCR1H221J5	220PF	1	MKB1[M]
C12	ECJ1VB1C563K	0.056U	1	MAIN[M]
C13	ECA1CM101	16V 100UF	1	FAJ[SPC]
C13	ECCR1H221J5	220PF	1	MKB1[M]
C13	ECJ1VG1H100D	10PF	1	MAIN[M]
C14	ECCR1H221J5	220PF	1	MKB1[M]
C15	ECCR1H221J5	220PF	1	MKB1[M]
C15	ECJ1VB1C563K	0.056U	1	MAIN[M]
C15	ECQB1H103JZ	50V 0.1U	1	FAJ[M]
C16	ECCR1H221J5	220PF	1	MKB1[M]
C16	ECJ1VB1C563K	0.056U	1	MAIN[M]
C16	ECQB1H103JZ	50V 0.1U	1	FAJ[M]
C17	ECA1CM471B	16V 470UF	1	FAJ[SPC]
C17	ECCR1H221J5	220PF	1	MKB1[M]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C17	ECJ1VB1C563K	0.056U	1	MAIN[M]
C18	ECEA1HKS010	50V 1U	1	MAIN[M]
C18	ECQB1H224JF3	0.22U	1	FAJ[M]
C19	ECJ1VG1H100D	10PF	1	MAIN[M]
C19	ECQB1H224JF3	0.22U	1	FAJ[M]
C20	ECCR1H221J5	220PF	1	MKB2[M]
C20	ECJ1VG1H101J	50V 100P	1	MAIN[M]
C21	ECCR1H221J5	220PF	1	MKB2[M]
C21	ECJ1VG1H101J	50V 100P	1	MAIN[M]
C22	ECA0JM471G	6.3V 470U	1	FAJ[M]
C22	ECCR1H221J5	220PF	1	MKB2[M]
C22	ECJ1VG1H101J	50V 100P	1	MAIN[M]
C23	ECCR1H221J5	220PF	1	MKB2[M]
C23	ECJ1VG1H101J	50V 100P	1	MAIN[M]
C24	ECCR1H221J5	220PF	1	MKB2[M]
C24	ECJ1VG1H101J	50V 100P	1	MAIN[M]
C24	ECQB1H103JZ	50V 0.1U	1	FAJ[M]
C25	ECCR1H221J5	220PF	1	MKB2[M]
C26	ECCR1H221J5	220PF	1	MKB2[M]
C26	ECJ1VB1C563K	0.056U	1	MAIN[M]
C27	ECCR1H221J5	220PF	1	MKB2[M]
C27	ECJ1VB1C563K	0.056U	1	MAIN[M]
C27	ECQB1H103JZ	50V 0.1U	1	FAJ[M]
C28	ECCR1H470J5	47PF	1	FAJ[SPC]
C28	ECJ1VB1C563K	0.056U	1	MAIN[M]
C29	ECA1CM102	16V 1000U	1	FAJ[M]
C29	ECJ1VB1C563K	0.056U	1	MAIN[M]
C30	ECA1CM102	16V 1000U	1	FAJ[M]
C31	ECA1CM331	16V 330PF	1	FAJ[M]
C31	ECJ1VB1C563K	0.056U	1	MAIN[M]
C32	ECFR1E104ZF5	25V 0.1U	1	F1C1E1040003 FAJ[M]
C32	ECJ1VB1C563K	0.056U	1	MAIN[M]
C33	ECJ1VB1C104K	0.1U	1	MAIN[SPC]
C34	ECJ1VB1C563K	0.056U	1	MAIN[M]
C35	ECJ1VB1C563K	0.056U	1	MAIN[M]
C36	ECJ1VB1C563K	0.056U	1	MAIN[M]
C39	ECJ1VB1C563K	0.056U	1	MAIN[M]
C40	ECJ1VB1H103K	0.01U	1	MAIN[SPC]
C46	ECEA1CKN010B	50V 1U	1	FAJ[M]
C47	ECEA1CKN010B	50V 1U	1	FAJ[M]
C49	ECJ1VB1C563K	0.056U	1	MAIN[M]
C50	ECEA0JKS470	6.3V 47U	1	MAIN[M]
C53	ECEA0JKS470	6.3V 47U	1	MAIN[M]
C57	ECJ1VG1H100D	10PF	1	MAIN[M]
C58	ECJ1VG1H100D	10PF	1	MAIN[M]
C68	ECA0JM102	6.3V 1000U	1	FAJ[M]
CN1	RJS1A5207	CONNECTOR(7P)	1	K1KB07A00016 MKB2[M]
CN2	RJS1A5212	CONNECTOR	1	K1MN12A00031 CP[M]
CN4	RJS1A5210	CONNECTOR(10P)	1	K1MP10A00003 FAJ[M]
CN5	RJS1A5212	CONNECTOR	1	K1MN12A00031 FAJ[M]
CN6	RJS1A5210	CONNECTOR(10P)	1	K1MP10A00003 MKB2[M]
CN7	RJS1A5208	CONNECTOR	1	K1MP08A00006 CP[M]
CN9,10	RJS1A5208	CONNECTOR	2	K1MP08A00006 MKB3[M]

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
CN11	RJS1A5210	CONNECTOR(10P)	1	K1MP10A00003 MKB1[M]
CN12	RJS1A5209	CONNECTOR	1	K1MP09A00002 MKB1[M]
CN17	RJT029W02V-1	EH CONNECTOR	1	K1KA02A00228 FAJ[M]
D1	MA4062H	DIODE	1	FAJ[SPC]
D1	RVD1SS133TA	DIODE	1	B0AACK000004 MKB1[M]
D2	MA111TX	DIODE	1	MA2J11100L MAIN[M]
D2	RVD1SS133TA	DIODE	1	B0AACK000004 MKB1[M]
D3	MA8024TX	ZENER	1	MAIN[M]
D3	RVD1SS133TA	DIODE	1	B0AACK000004 MKB1[M]
D3	RVD1SS133TA	DIODE	1	B0AACK000004 FAJ[M]
D4	AK03WK	DIODE	1	FAJ[SPC]
D4	MA111TX	DIODE	1	MA2J11100L MAIN[M]
D4-D6	RVD1SS133TA	DIODE	3	B0AACK000004 MKB1[M]
D7	MA1039MTR	DIODE	1	MAIN[M]
D7	RVD1SS133TA	DIODE	1	B0AACK000004 MKB1[M]
D8	MA111TX	DIODE	1	MA2J11100L MAIN[M]
D8	RVD1SS133TA	DIODE	1	B0AACK000004 MKB1[M]
D9	MA111TX	DIODE	1	MA2J11100L MAIN[M]
D9	RVD1SS133TA	DIODE	1	B0AACK000004 MKB1[M]
D10	MA111TX	DIODE	1	MA2J11100L MAIN[M]
D10	RVD1SS133TA	DIODE	1	B0AACK000004 MKB1[M]
D11	MA111TX	DIODE	1	MA2J11100L MAIN[M]
D11	RVD1SS133TA	DIODE	1	B0AACK000004 MKB1[M]
D11	RVD1SS133TA	DIODE	1	B0AACK000004 FAJ[M]
D12	MA111TX	DIODE	1	MA2J11100L MAIN[M]
D12	RVD1SS133TA	DIODE	1	B0AACK000004 MKB1[M]
D13	1D3E	DIODE	1	FAJ[M]
D13	MA111TX	DIODE	1	MA2J11100L MAIN[M]
D13	RVD1SS133TA	DIODE	1	B0AACK000004 MKB1[M]
D14	MA111TX	DIODE	1	MA2J11100L MAIN[M]
D14	MA4036M	ZENER	1	MAZ40360M FAJ[M]
D14	RVD1SS133TA	DIODE	1	B0AACK000004 MKB1[M]
D15	MA111TX	DIODE	1	MA2J11100L MAIN[M]
D15	RVD1SS133TA	DIODE	1	B0AACK000004 MKB1[M]
D15	RVD1SS133TA	DIODE	1	B0AACK000004 FAJ[M]
D16	MA111TX	DIODE	1	MA2J11100L MAIN[M]
D16	MA4051-L	DIODE	1	MAZ40510L FAJ[M]
D16	RVD1SS133TA	DIODE	1	B0AACK000004 MKB1[M]
D17	MA111TX	DIODE	1	MA2J11100L MAIN[M]
D17	MA4051-L	DIODE	1	MAZ40510L FAJ[M]
D17-20	RVD1SS133TA	DIODE	4	B0AACK000004 MKB1[M]
D20	TLOH156PJ52A	DIODE	1	FAJ[M]
D21	RVD1SS133TA	DIODE	1	B0AACK000004 MKB1[M]
D21	TLOH156PJ52A	DIODE	1	FAJ[M]
D22	RVD1SS133TA	DIODE	1	B0AACK000004 MKB1[M]
D22	TLOH156PJ52A	DIODE	1	FAJ[M]
D23	RVD1SS133TA	DIODE	1	B0AACK000004 MKB1[M]
D23	SEL5255STP15	LED SANKEN	1	FAJ[M]
D24	RVD1SS133TA	DIODE	1	B0AACK000004 MKB1[M]
D24	SEL5255STP15	LED SANKEN	1	FAJ[M]
D25	RVD1SS133TA	DIODE	1	B0AACK000004 MKB1[M]
D25	SEL5255STP15	LED SANKEN	1	FAJ[M]
D26	RVD1SS133TA	DIODE	1	B0AACK000004 MKB1[M]

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
D26	SEL5255STP15	LED SANKEN	1	FAJ[M]
D27-48	RVD1SS133TA	DIODE	22	B0AACK000004 MKB1[M]
D49-96	RVD1SS133TA	DIODE	48	B0AACK000004 MKB2[M]
D97-22	RVD1SS133TA	DIODE	26	B0AACK000004 MKB3[M]
IC1	PC900V	PHOTO COUPLER	1	FAJ[M]
IC1	SED1278F	LCDC	1	MAIN[M]
IC1	TC74HC138P	CMOS IC	1	MKB1[M]
IC2	LA4227	IC	1	FAJ[M]
IC2	TC74HC138P	CMOS IC	1	MKB2[M]
IC2	TMP95CW65DF	CPU	1	MAIN[M]
IC3	M5256DF10VLL	256K SRAM	1	MAIN[M]
IC3	NJM4558L	OPAMP	1	FAJ[M]
IC4	TC200C060003	D99 LSI	1	MAIN[M]
IC10	QSIGX3C16009	MASK ROM	1	MAIN[SPC]
IC11	BU9480F-E2	D/A	1	MAIN[M]
IC13	QSIGX3C16018	MASK ROM	1	MAIN[M]
JK1	QJJG017AA	PIN JACK	1	FAJ[M]
JK2	QJJG020AA	JACK	1	FAJ[M]
JK3	QJJG020AA	JACK	1	FAJ[M]
JK5	QJJG019AA	JACK	1	FAJ[M]
JK6	QJJG016AA	JACK	1	⚠ FAJ[M]
JK12	QJJG018AA	JACK	1	FAJ[M]
IP1	ICP-N38T104	IC PROTECTOR	1	⚠ FAJ[SPC]
JP1	ECCR1H221J5	220PF	1	FAJ[M]
JP2	ECCR1H221J5	220PF	1	FAJ[M]
JP5	ERJ3GEY0R00V	CHIP JUMPER	1	MAIN[SPC]
L1	ERJ3GEYJ101V	100	1	MAIN[SPC]
L1	QLQGT3T131LA	130MH × 3	1	FAJ[SPC]
L2	ERJ3GEYJ101V	100	1	MAIN[SPC]
L3	ERJ3GEYJ101V	100	1	MAIN[SPC]
L4	ERJ3GEYJ101V	100	1	MAIN[SPC]
L4	QLQGT3T131LA	130MH × 3	1	FAJ[SPC]
L5	ERJ3GEYJ101V	100	1	MAIN[SPC]
L5	QLQGT3T131LA	130MH × 3	1	FAJ[SPC]
L7	QLQGT3T131LA	130MH × 3	1	FAJ[SPC]
L8	QLQGT2T100LA	10UH × 2	1	FAJ[SPC]
L9	QLQGT1B101KA	100UH	1	FAJ[SPC]
L11	QLQGT3T131LA	130MH × 3	1	FAJ[SPC]
P1	QPGG0495AA	CARTON BOX	1	[M]
P2	QPNG0754BA	CUTTION(L)	1	[M]
P3	QPNG0755AA	CUTTION(R)	1	[M]
P4	QPGG0469AA	MUSIC RACK PAT	1	[M]
PCB1	SXPG234531	MAIN P.C.B.	1	EXCEPT P PY[M] <RTL>
PCB1	SXPG234541	MAIN P.C.B.	1	P PY ONLY[M] <RTL>
PCB2	SXPG234621	FAJ/BLED/RLED P.C.B.	1	[M] <RTL>
PCB3	SXPG234211	CP P.C.B.	1	[M] <RTL>
PCB4	SXPG234311	MKB1/2 P.C.B.	1	[M] <RTL>

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
PCB5	SXPG234411	MKB3 P.C.B.	1	[M] <RTL>
Q1	2SD601R	TRANSISTOR	1	2SD0601AR MAIN[M]
Q1	B1ACKD000002	TRANSISTOR	1	FAJ[M]
Q2	2SB709AR	TRANSISTOR	1	MAIN[SPC]
Q2	B1AACF000068	TRANSISTOR	1	FAJ[M]
Q3	2SB709AR	TRANSISTOR	1	MAIN[SPC]
Q3	B1ACCF000041	TRANSISTOR	1	FAJ[M]
Q4	2SB709AR	TRANSISTOR	1	MAIN[SPC]
Q4	B1ACCF000041	TRANSISTOR	1	FAJ[M]
Q5	2SB709AR	TRANSISTOR	1	MAIN[SPC]
Q5	B1AACF000068	TRANSISTOR	1	FAJ[M]
Q6	2SB709AR	TRANSISTOR	1	MAIN[SPC]
Q6	B1ACCF000041	TRANSISTOR	1	FAJ[M]
Q7	2SD601R	TRANSISTOR	1	2SD0601AR MAIN[M]
Q7	B1AACF000068	TRANSISTOR	1	FAJ[M]
R1	ERJ3GEYJ104V	100K	1	MAIN[SPC]
R1	ERD2FCJ4R7	4.7	1	⚠ FAJ[M]
R2	ERJ3GEYJ104V	100K	1	MAIN[SPC]
R2	ERDS2FJ103	10K	1	FAJ[M]
R3	ERJ3GEYJ221V	220	1	MAIN[SPC]
R3	ERDS2FJ471	470	1	FAJ[M]
R4	ERJ3GEYJ472V	4.7K	1	MAIN[SPC]
R4	ERDS2FJ101	100	1	FAJ[M]
R5	ERJ3GEYJ472V	4.7K	1	MAIN[SPC]
R5	ERDS2FJ473	47K	1	FAJ[M]
R6	ERJ3GEYJ472V	4.7K	1	MAIN[SPC]
R6	ERDS2FJ102	1K	1	FAJ[M]
R7	ERJ3GEYJ472V	4.7K	1	MAIN[SPC]
R7	ERDS2FJ330	33	1	FAJ[M]
R8	ERJ3GEYJ472V	4.7K	1	MAIN[SPC]
R8	ERDS2FJ104	100K	1	FAJ[M]
R9	ERJ3GEYJ103V	10K	1	MAIN[SPC]
R9	ERDS2FJ330	33	1	FAJ[M]
R10	ERJ3GEYJ103V	10K	1	MAIN[SPC]
R10	ERDS2FJ221	220	1	FAJ[M]
R11	ERJ3GEYJ332V	3.3K	1	MAIN[SPC]
R11	ERDS2FJ680	68	1	FAJ[M]
R12	ERJ3GEYJ103V	10K	1	MAIN[SPC]
R12	ERDS2FJ680	68	1	FAJ[M]
R13	ERDS2FJ680	68	1	FAJ[M]
R13	ERJ6GEYJ472V	4.7K	1	MAIN[M]
R14	ERJ3GEYJ101V	100	1	MAIN[SPC]
R14	ERDS2FJ102	1K	1	FAJ[M]
R15	ERJ3GEYJ101V	100	1	MAIN[SPC]
R15	ERDS2FJ471	470	1	FAJ[M]
R16	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R16	ERDS2FJ471	470	1	FAJ[M]
R17	ERJ3GEYJ472V	4.7K	1	MAIN[SPC]
R17	ERDS2FJ472	4.7K	1	FAJ[M]
R18	ERJ3GEYJ221V	220	1	MAIN[SPC]
R18	ERDS2FJ681	680	1	FAJ[M]
R19	ERJ3GEYJ221V	220	1	MAIN[SPC]

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R19	ERDS2FJ472	4.7K	1	FAJ[M]
R20	ERJ3GEYJ472V	4.7K	1	MAIN[SPC]
R20	ERDS2FJ683	68K	1	FAJ[M]
R21	ERJ3GEYJ103V	10K	1	MAIN[SPC]
R21	ERDS2FJ151	150	1	FAJ[M]
R22	ERJ3GEY0R00V	CHIP JUMPER	1	MAIN[SPC]
R22	ERDS2FJ333	33K	1	FAJ[M]
R23	ERD25FVJ682T	6.8K	1	MAIN[SPC]
R23	ERDS2FJ102	1K	1	FAJ[M]
R24	ERJ3GEYJ221V	220	1	MAIN[SPC]
R24	ERDS2FJ683	68K	1	FAJ[M]
R25	ERJ3GEYJ101V	100	1	MAIN[SPC]
R25	ERDS2FJ683	68K	1	FAJ[M]
R26	ERDS2FJ333	33K	1	FAJ[M]
R27	ERDS2FJ333	33K	1	FAJ[M]
R28	ERJ3GEYJ105V	1M	1	MAIN[SPC]
R28	ERDS2FJ561	560	1	FAJ[M]
R29	ERJ3GEYJ101V	100	1	MAIN[SPC]
R29	ERDS2FJ561	560	1	FAJ[M]
R29	ERJ3GEYJ101V	100	1	MAIN[M]
R30	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R30	ERDS2FJ472	4.7K	1	FAJ[M]
R31	ERJ3GEYJ101V	100	1	MAIN[SPC]
R31	ERDS2FJ472	4.7K	1	FAJ[M]
R32	ERDS2FJ151	150	1	FAJ[M]
R33	ERDS2FJ151	150	1	FAJ[M]
R34	ERDS2FJ472	4.7K	1	FAJ[M]
R35	ERDS2FJ472	4.7K	1	FAJ[M]
R36	ERDS2FJ101	100	1	FAJ[M]
R37	ERDS2FJ332	3.3K	1	FAJ[M]
R38	ERDS2FJ332	3.3K	1	FAJ[M]
R39	ERDS2FJ682	6.8K	1	FAJ[M]
R40	ERDS2FJ682	6.8K	1	FAJ[M]
R41	ERDS2FJ683	68K	1	FAJ[M]
R42	ERDS2FJ333	33K	1	FAJ[M]
R43	ERDS2FJ470	47	1	⚠ FAJ[M]
R45	ERD2FCJ4R7	4.7	1	⚠ FAJ[M]
R46	ERDS2FJ103	10K	1	FAJ[M]
R47	ERDS2FJ472	4.7K	1	FAJ[M]
R48	ERDS2FJ222	2.2K	1	FAJ[M]
R49	ERJ3GEYJ221V	220	1	MAIN[SPC]
R49	ERDS2FJ681	680	1	FAJ[M]
R50	ERJ3GEYJ105V	1M	1	MAIN[SPC]
R50	ERD2FCJ4R7	4.7	1	⚠ FAJ[M]
R51	ERJ3GEYJ470V	47	1	MAIN[SPC]
R52	ERJ3GEYJ332V	3.3K	1	MAIN[SPC]
R53	ERJ3GEYJ822V	8.2K	1	MAIN[SPC]
R54	ERJ3GEYJ822V	8.2K	1	MAIN[SPC]
R55	ERJ3GEYJ332V	3.3K	1	MAIN[SPC]
R56	ERJ3GEYJ822V	8.2K	1	MAIN[SPC]
R57	ERJ3GEYJ822V	8.2K	1	MAIN[SPC]
R58	ERJ3GEYJ332V	3.3K	1	MAIN[SPC]
R59	ERJ3GEYJ822V	8.2K	1	MAIN[SPC]

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R60	ERJ3GEYJ822V	8.2K	1	MAIN[SPC]
R61	ERJ3GEYJ332V	3.3K	1	MAIN[SPC]
R62	ERJ3GEYJ822V	8.2K	1	MAIN[SPC]
R63	ERJ3GEYJ822V	8.2K	1	MAIN[SPC]
R64	ERJ3GEYJ103V	10K	1	MAIN[SPC]
R65	ERJ3GEYJ101V	100	1	MAIN[SPC]
R66	ERJ3GEYJ101V	100	1	MAIN[SPC]
R67	ERJ3GEYJ103V	10K	1	MAIN[SPC]
R68	ERJ3GEYJ101V	100	1	MAIN[SPC]
R69	ERJ3GEYJ103V	10K	1	MAIN[SPC]
R70	ERJ3GEYJ101V	100	1	MAIN[SPC]
R71	ERJ3GEYJ103V	10K	1	MAIN[SPC]
R74	ERJ3GEYJ101V	100		MAIN[SPC]
R75	ERJ3GEYJ221V	220	1	MAIN[SPC]
R76	ERJ3GEYJ221V	220	1	MAIN[SPC]
R77	ERJ3GEYJ221V	220	1	MAIN[SPC]
R78	ERJ3GEYJ221V	220	1	MAIN[SPC]
R79	ERJ3GEYJ221V	220	1	MAIN[SPC]
R80	ERJ3GEYJ221V	220	1	MAIN[SPC]
R81	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R82	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R84	ERJ3GEYJ471V	470	1	MAIN[SPC]
R85	ERJ3GEYJ471V	470	1	MAIN[SPC]
R86	ERJ3GEYJ471V	470	1	MAIN[SPC]
R87	ERJ3GEYJ471V	470	1	MAIN[SPC]
R88	ERJ3GEYJ471V	470	1	MAIN[SPC]
R89	ERJ3GEYJ471V	470	1	MAIN[SPC]
R90	ERJ3GEYJ471V	470	1	MAIN[SPC]
R91	ERJ3GEYJ471V	470	1	MAIN[SPC]
R92	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R93	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R94	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R95	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R96	ERJ3GEYJ472V	4.7K	1	MAIN[SPC]
R97	ERJ3GEYJ472V	4.7K	1	MAIN[SPC]
R98	ERJ3GEYJ472V	4.7K	1	MAIN[SPC]
R99	ERJ3GEYJ472V	4.7K	1	MAIN[SPC]
R100	ERJ3GEYJ472V	4.7K	1	MAIN[SPC]
R101	ERJ3GEYJ472V	4.7K	1	MAIN[SPC]
R102	ERJ3GEYJ472V	4.7K	1	MAIN[SPC]
R103	ERJ3GEYJ472V	4.7K	1	MAIN[SPC]
R104	ERJ3GEYJ103V	10K	1	MAIN[SPC]
R105	ERJ3GEYJ103V	10K	1	MAIN[SPC]
R106	ERJ3GEYJ103V	10K	1	MAIN[SPC]
R107	ERJ3GEYJ103V	10K	1	MAIN[SPC]
R108	ERJ3GEYJ103V	10K	1	MAIN[SPC]
R109	ERJ3GEYJ103V	10K	1	MAIN[SPC]
R110	ERJ3GEYJ103V	10K	1	MAIN[SPC]
R111	ERJ3GEYJ103V	10K	1	MAIN[SPC]
R112	ERJ3GEYJ221V	220	1	MAIN[SPC]
R113	ERJ3GEYJ221V	220	1	MAIN[SPC]
R114	ERJ3GEYJ221V	220	1	MAIN[SPC]
R115	ERJ3GEYJ221V	220	1	MAIN[SPC]
R116	ERJ3GEYJ101V	100	1	MAIN[SPC]

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R117	ERJ3GEYJ101V	100	1	MAIN[SPC]
R118	ERJ3GEYJ101V	100	1	MAIN[SPC]
R119	ERJ3GEYJ101V	100	1	MAIN[SPC]
R120	ERJ3GEYJ104V	100K	1	MAIN[SPC]
R121	ERJ3GEYJ104V	100K	1	MAIN[SPC]
R122	ERJ3GEYJ104V	100K	1	MAIN[SPC]
R123	ERJ3GEYJ104V	100K	1	MAIN[SPC]
R124	ERJ3GEYJ221V	220	1	MAIN[SPC]
R125	ERJ3GEYJ221V	220	1	MAIN[SPC]
R126	ERJ3GEYJ221V	220	1	MAIN[SPC]
R127	ERJ3GEYJ221V	220	1	MAIN[SPC]
R152	ERJ3GEYJ221V	220	1	MAIN[SPC]
R153	ERJ3GEYJ221V	220	1	MAIN[SPC]
R154	ERJ3GEYJ221V	220	1	MAIN[SPC]
R155	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R156	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R157	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R158	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R159	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R160	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R161	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R162	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R163	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R164	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R165	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R166	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R167	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R168	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R169	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R170	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R171	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R172	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R173	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R174	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R175	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R176	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R177	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R178	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R179	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R180	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R181	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R182	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R183	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R184	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R185	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R186	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R187	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R188	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R189	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R190	ERJ3GEYJ102V	1K	1	MAIN[SPC]
R210	ERJ3GEYJ221V	220	1	MAIN[SPC]
R211	ERJ3GEYJ221V	220	1	MAIN[SPC]
R212	ERJ3GEYJ221V	220	1	MAIN[SPC]
R213	ERJ3GEYJ221V	220	1	MAIN[SPC]

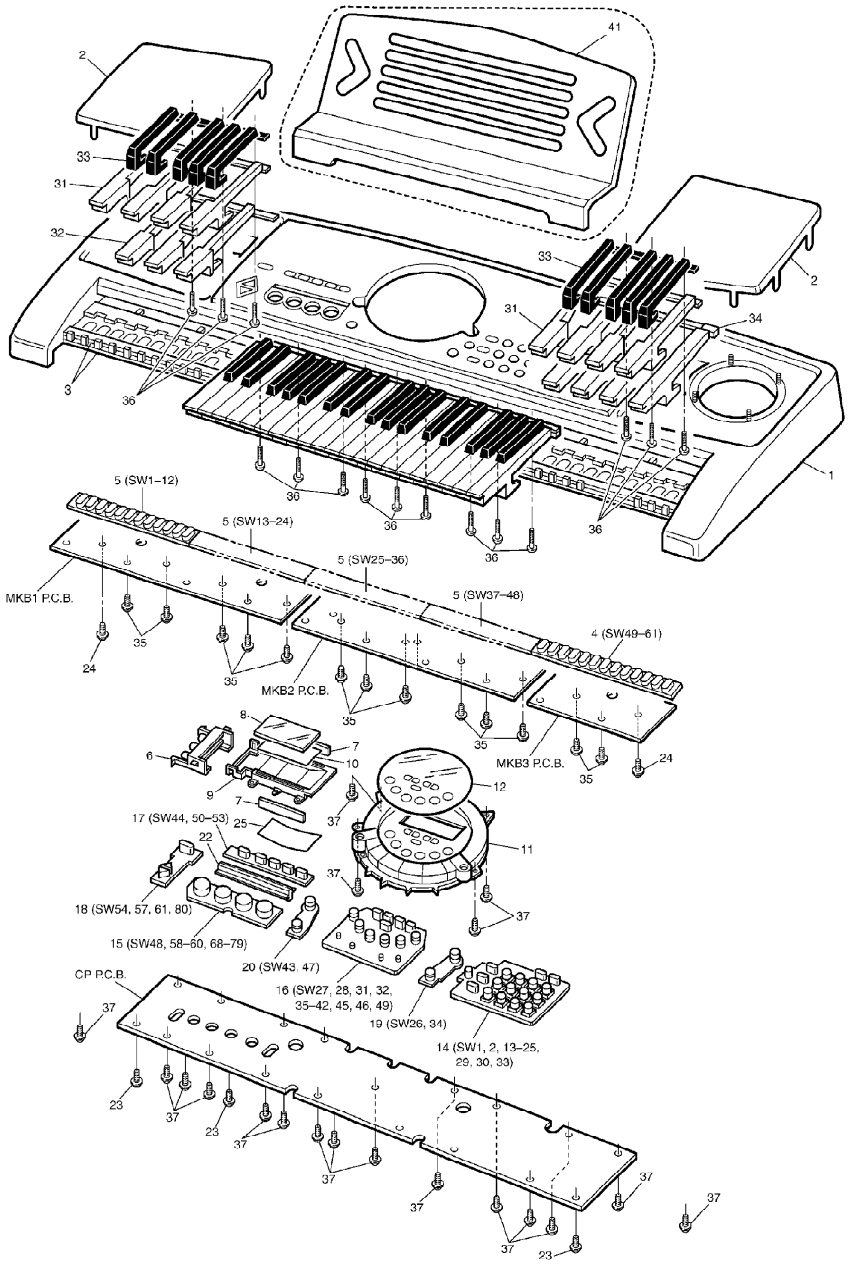
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R214	ERJ3GEYJ221V	220	1	MAIN[SPC]
R215	ERJ3GEYJ221V	220	1	MAIN[SPC]
R216	ERJ3GEYJ221V	220	1	MAIN[SPC]
R217	ERJ3GEYJ221V	220	1	MAIN[SPC]
R218	ERJ3GEYJ221V	220	1	MAIN[SPC]
R219	ERJ3GEYJ221V	220	1	MAIN[SPC]
R220	ERJ3GEYJ221V	220	1	MAIN[SPC]
R221	ERJ3GEYJ221V	220	1	MAIN[SPC]
R222	ERJ3GEYJ151V	150	1	MAIN[SPC]
R223	ERJ3GEYJ151V	150	1	MAIN[SPC]
R224	ERJ3GEYJ151V	150	1	MAIN[SPC]
R225	ERJ3GEYJ151V	150	1	MAIN[SPC]
R226	ERJ3GEYJ471V	470	1	MAIN[SPC]
R227	ERJ3GEYJ471V	470	1	MAIN[SPC]
R228	ERJ3GEYJ471V	470	1	MAIN[SPC]
R229	ERJ3GEYJ471V	470	1	MAIN[SPC]
R230	ERJ3GEYJ471V	470	1	MAIN[SPC]
R231	ERJ3GEYJ471V	470	1	MAIN[SPC]
R232	ERJ3GEYJ471V	470	1	MAIN[SPC]
R233	ERJ3GEYJ471V	470	1	MAIN[SPC]
R234	ERJ3GEYJ471V	470	1	MAIN[SPC]
R235	ERJ3GEYJ471V	470	1	MAIN[SPC]
R236	ERJ3GEYJ471V	470	1	MAIN[SPC]
R237	ERJ3GEYJ471V	470	1	MAIN[SPC]
R238	ERJ3GEYJ471V	470	1	MAIN[SPC]
R239	ERJ3GEYJ471V	470	1	MAIN[SPC]
R240	ERJ3GEYJ471V	470	1	MAIN[SPC]
R241	ERJ3GEYJ471V	470	1	MAIN[SPC]
R242	ERJ3GEYJ471V	470	1	MAIN[SPC]
R243	ERJ3GEYJ471V	470	1	MAIN[SPC]
R244	ERJ3GEYJ471V	470	1	MAIN[SPC]
R245	ERJ3GEYJ471V	470	1	MAIN[SPC]
R246	ERJ3GEYJ221V	220	1	MAIN[SPC]
R247	ERJ3GEYJ221V	220	1	MAIN[SPC]
R248	ERJ3GEYJ221V	220	1	MAIN[SPC]
R249	ERJ3GEYJ221V	220	1	MAIN[SPC]
R250	ERJ3GEYJ221V	220	1	MAIN[SPC]
R251	ERJ3GEYJ221V	220	1	MAIN[SPC]
R252	ERJ3GEYJ221V	220	1	MAIN[SPC]
R253	ERJ3GEYJ221V	220	1	MAIN[SPC]
R254	ERJ3GEYJ221V	220	1	MAIN[SPC]
R255	ERJ3GEYJ221V	220	1	MAIN[SPC]
R256	ERJ3GEYJ221V	220	1	MAIN[SPC]
R257	ERJ3GEYJ221V	220	1	MAIN[SPC]
R258	ERJ3GEYJ221V	220	1	MAIN[SPC]
R259	ERJ3GEYJ221V	220	1	MAIN[SPC]
R260	ERJ3GEYJ221V	220	1	MAIN[SPC]
R261	ERJ3GEYJ221V	220	1	MAIN[SPC]
SW1-12	-	SWITCH	12	MKB1*1
SW13-24	-	SWITCH	12	MKB1*1
SW25-36	-	SWITCH	12	MKB2*1
SW37-48	-	SWITCH	12	MKB2*1
SW49-61	-	SWITCH	13	MKB3*1

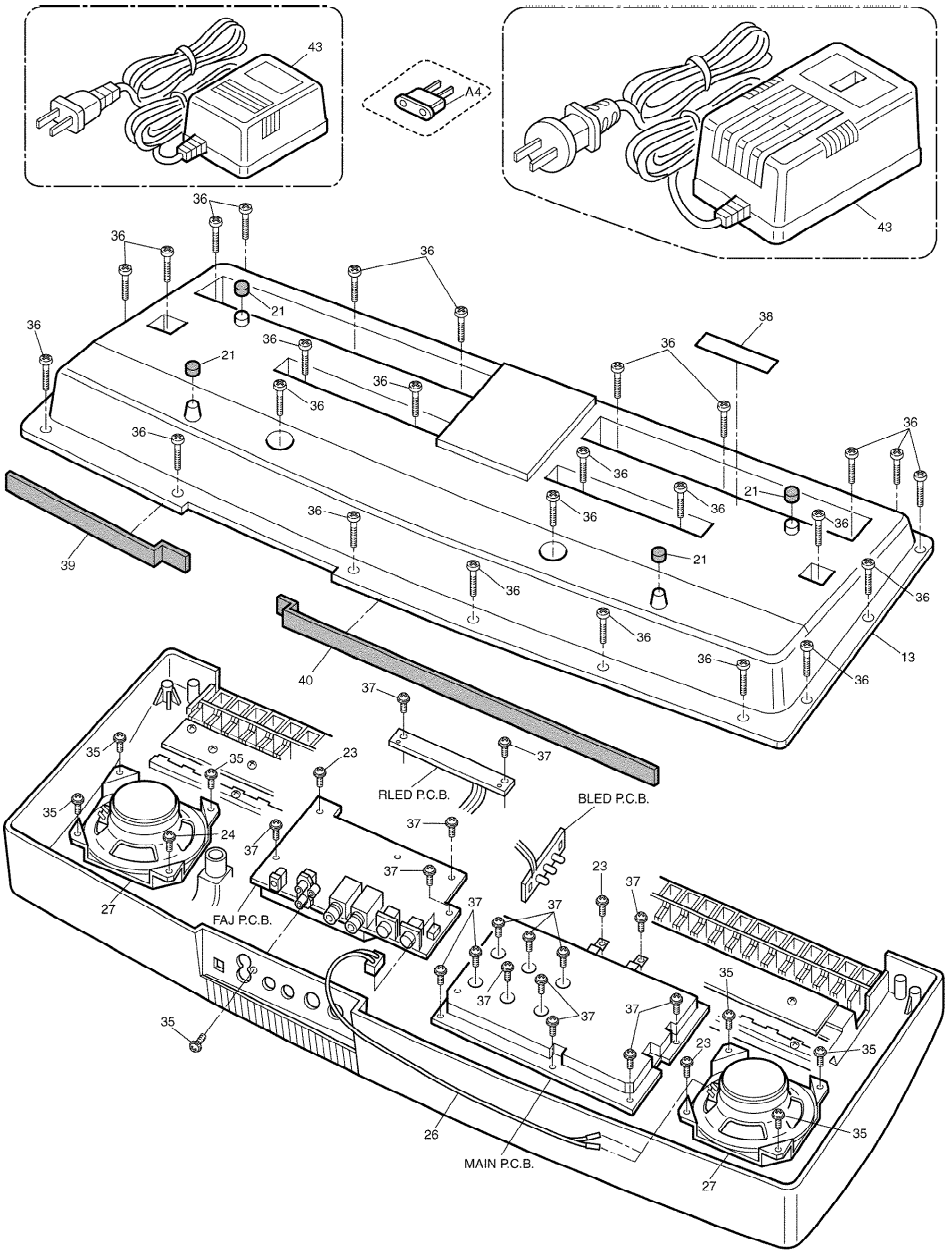
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
SW1,2	-	SWITCH	2	CP*1
SW13-54	-	SWITCH	42	CP*1
SW57-61	-	SWITCH	5	CP*1
SW68-79	-	SWITCH	12	CP*1
X1	QSXG2F1400A	CERAMIC OCS (14MHZ)	1	MAIN[SPC]
X3	QSXG2F3200CA	CERAMIC OCS(32MHZ)	1	MAIN[SPC]

Notes:

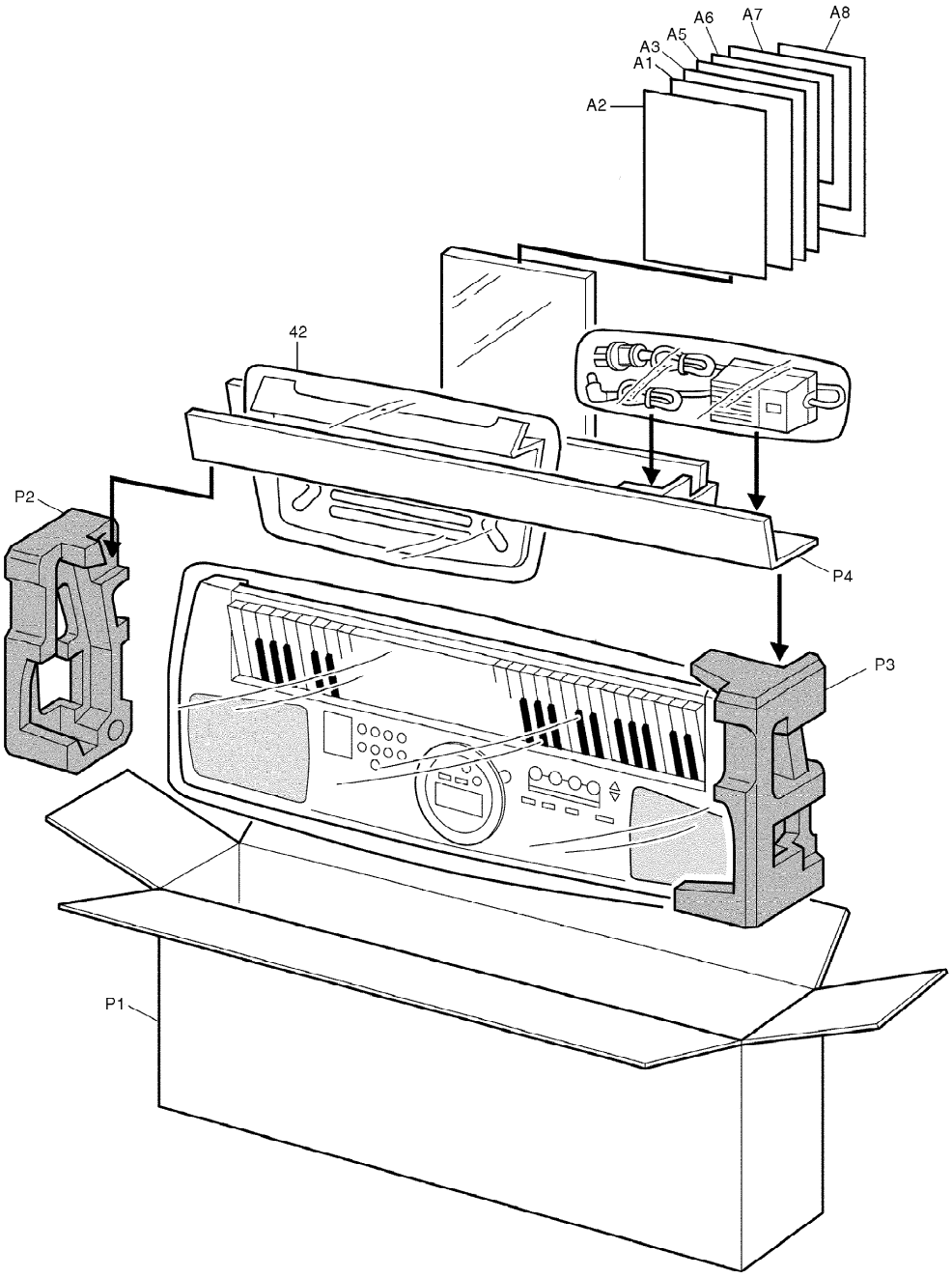
***1: Since SW consists of buttons and P.C.B.s, we do not supply it as an individual part (refer to "CABINET PARTS LOCATION " on).**

6. CABINET PARTS LOCATION


41
2
33
31
32
3
36
33
2
31
34
1
5 (SW1–12)
5 (SW13–24)
5 (SW25–36)
5 (SW37–48)
4 (SW49–61)
MKB1 P.C.B.
MKB2 P.C.B.
MKB3 P.C.B.
24
35
8
7
6
10
9
12
17 (SW44, 50–53)
25
22
11
18 (SW54, 57, 61, 80)
15 (SW48, 58–60, 68–79)
20 (SW43, 47)
16 (SW27, 28, 31, 32, 35–42, 45, 46, 49)
19 (SW26, 34)
14 (SW1, 2, 13–25, 29, 30, 33)
CP P.C.B.
23
37

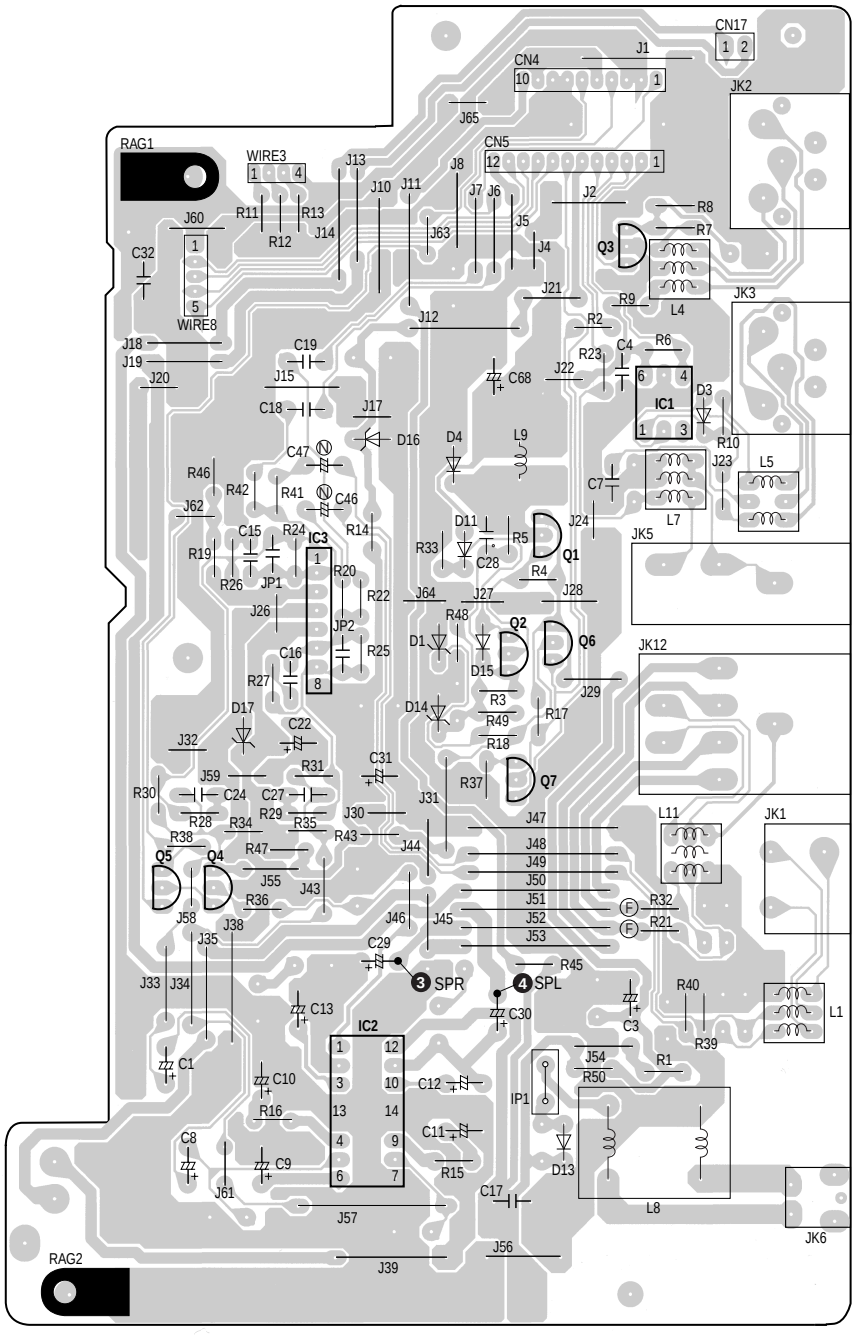

43
A4
43
36
21
38
39
40
37
23
35
24
27
RLED P.C.B.
BLED P.C.B.
FAJ P.C.B.
26
MAIN P.C.B.

7. PACKAGING



Printed in Japan / S010300000 HM/AM

B FAJ P.C.B.

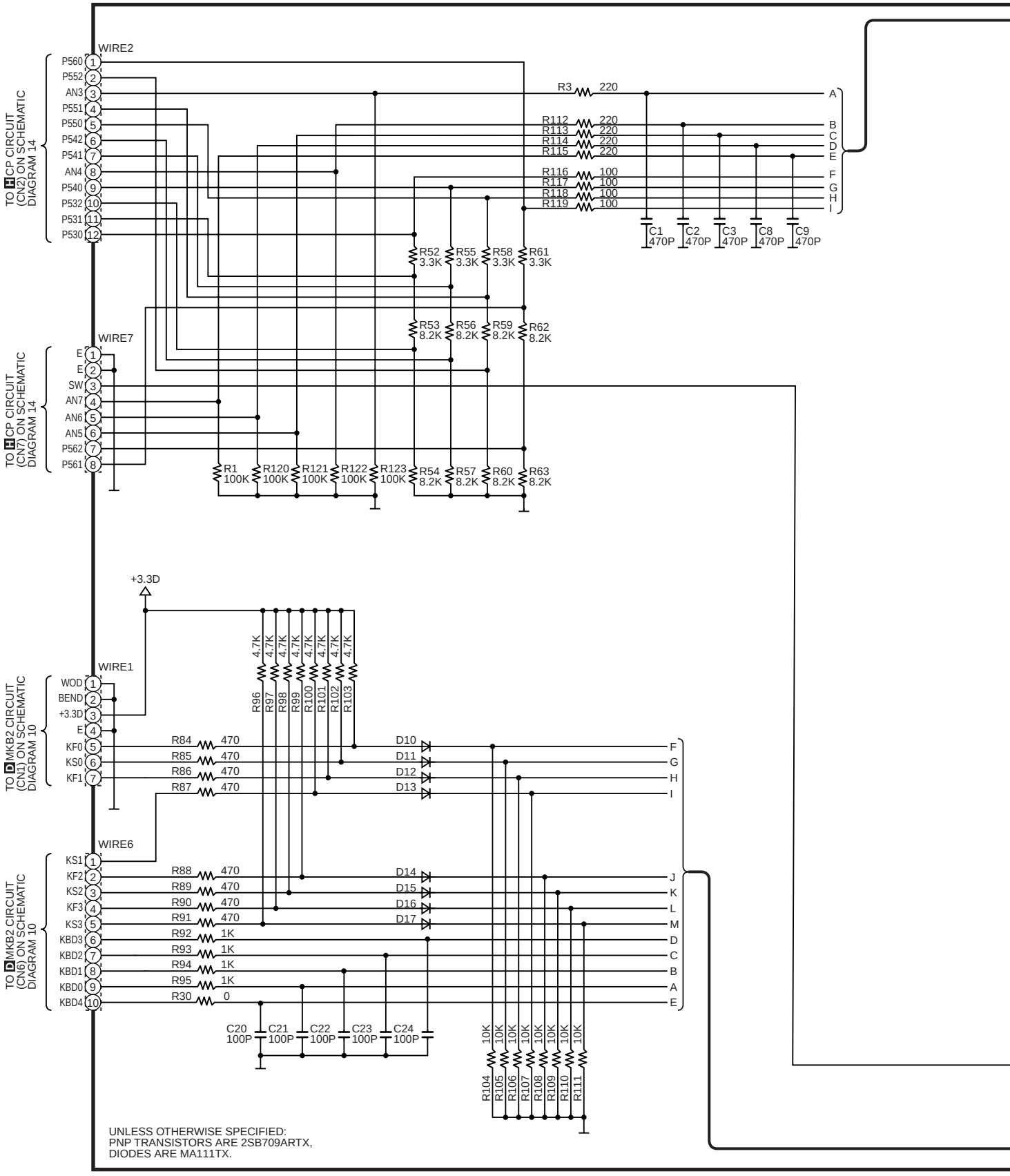


(SXPG234621)

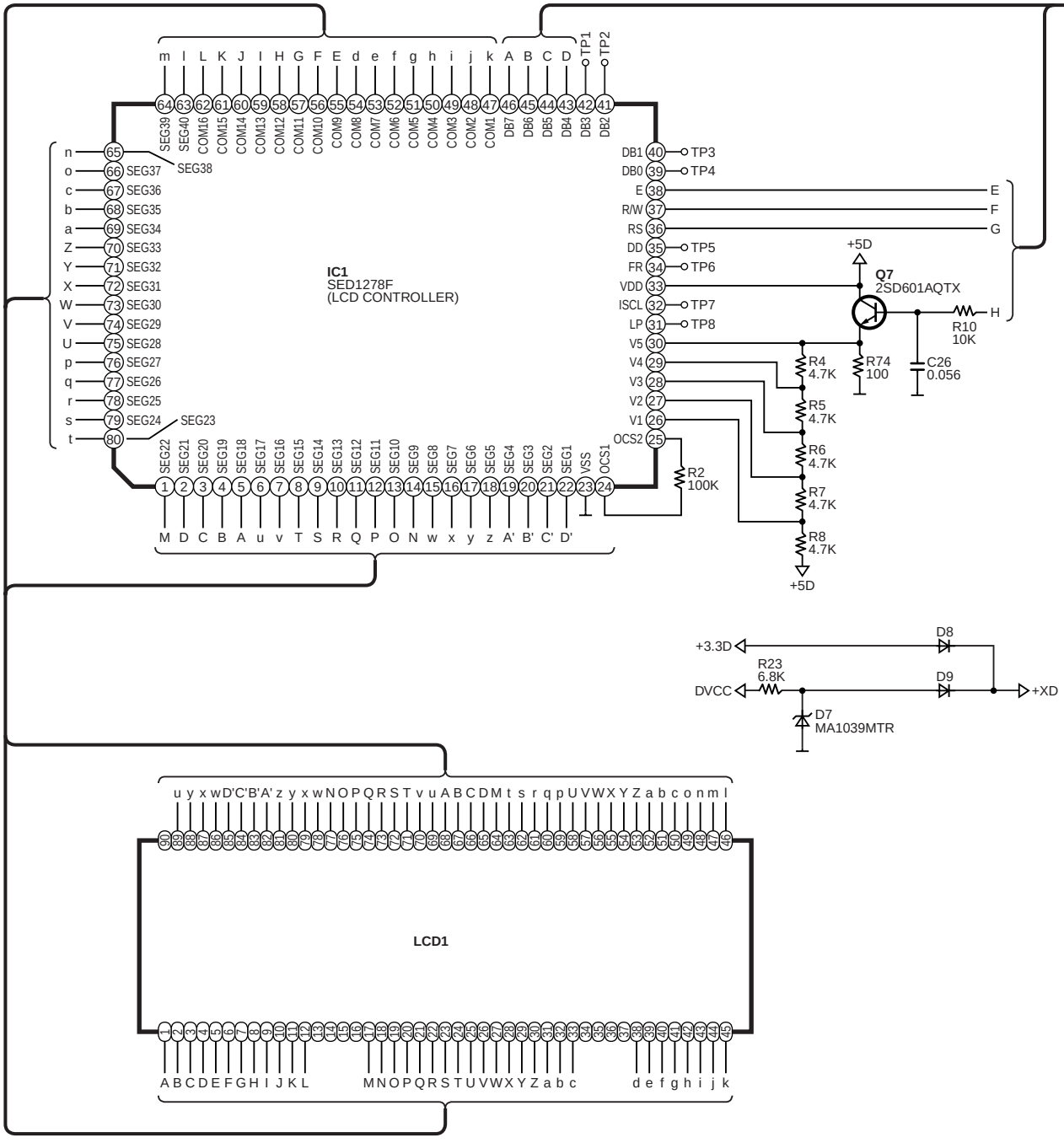
SCHEMATIC DIAGRAM-1

NOTE:
The number which noted at the connectors on the schematic diagram as
"SCHEMATIC DIAGRAM-1" or "SCHEMATIC DIAGRAM-2"
indicates the schematic diagram serial number located on the left corner in the schematic diagram.

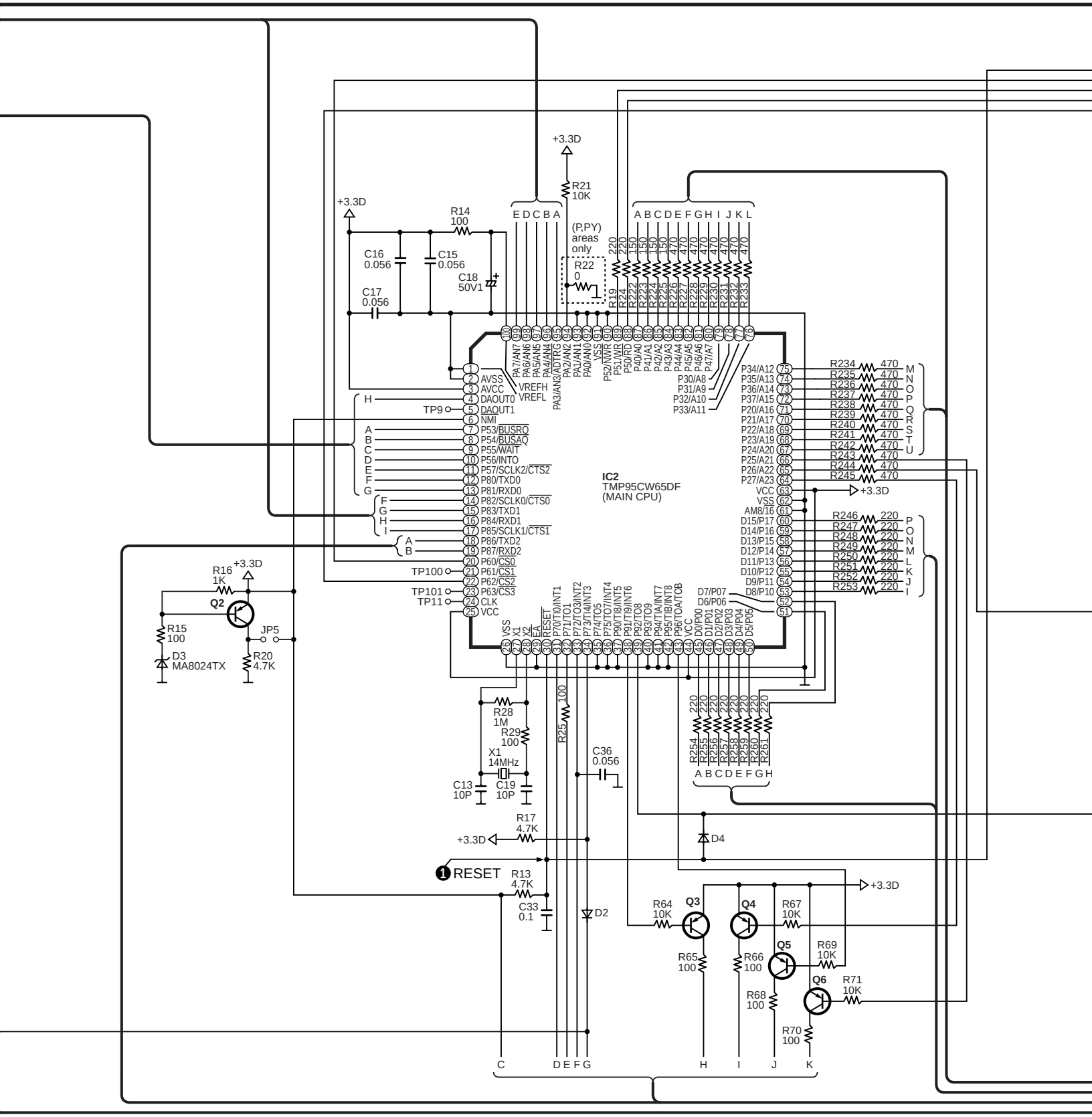
A MAIN CIRCUIT



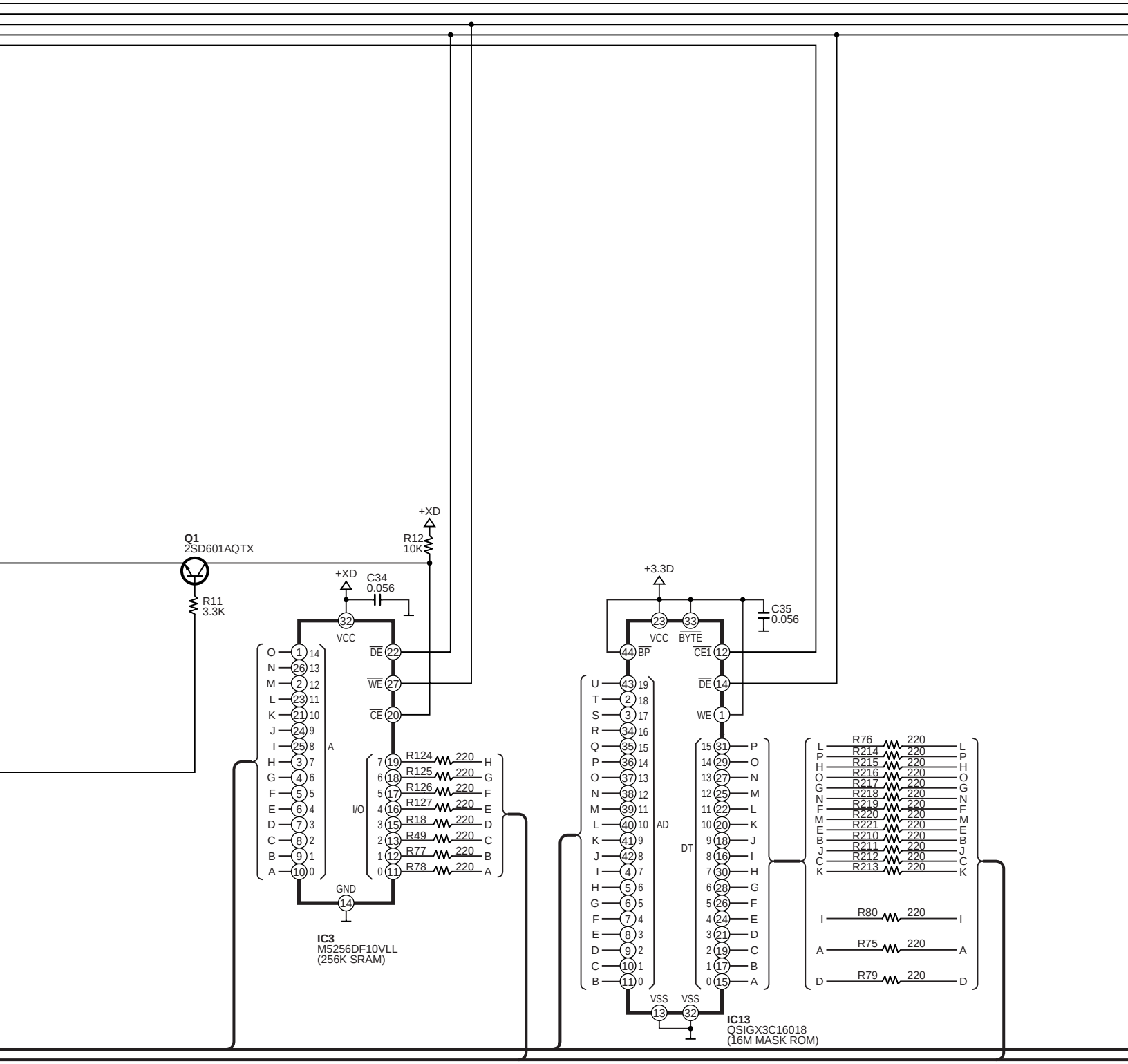
SCHEMATIC DIAGRAM-2



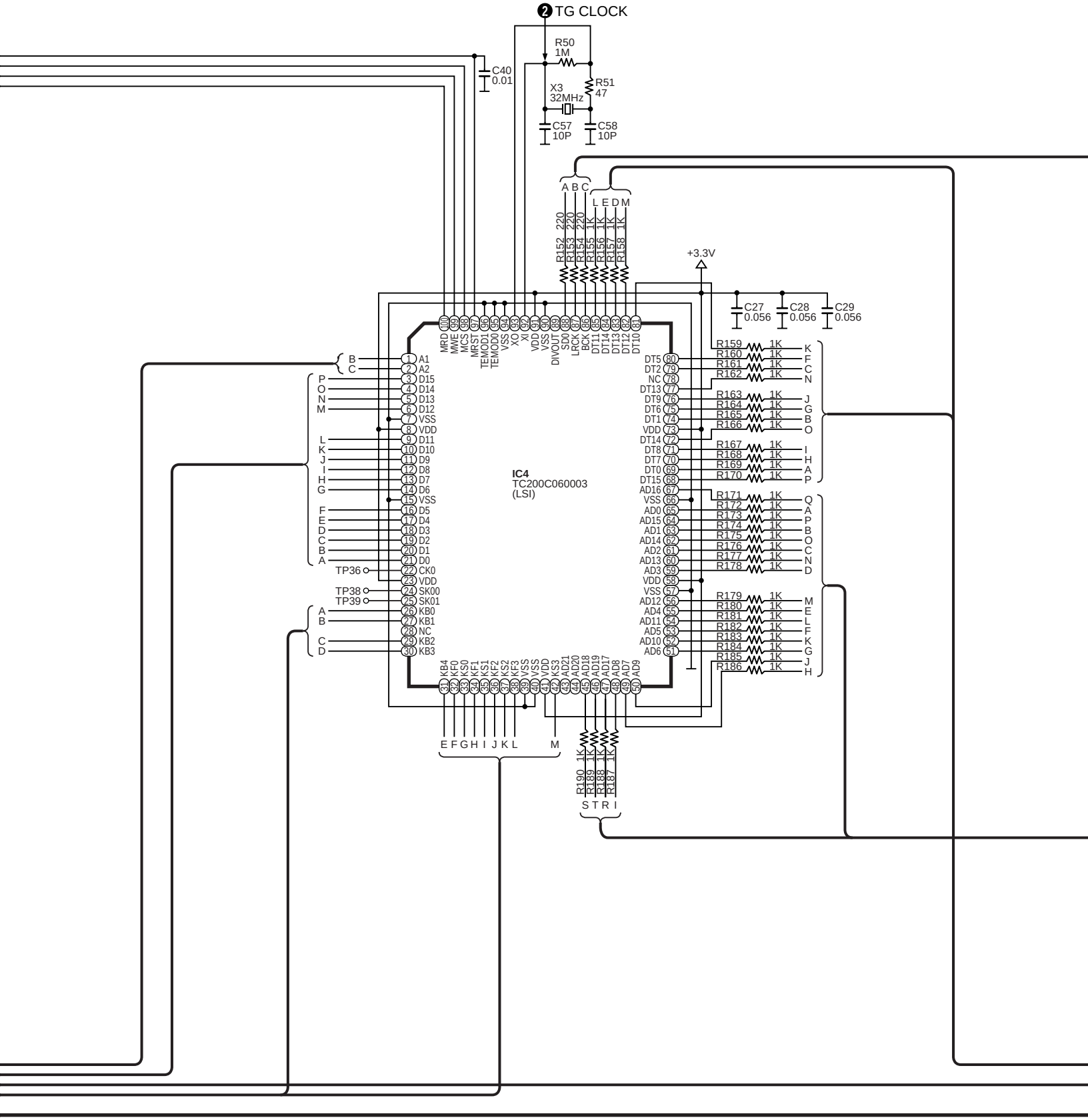
SCHEMATIC DIAGRAM-3



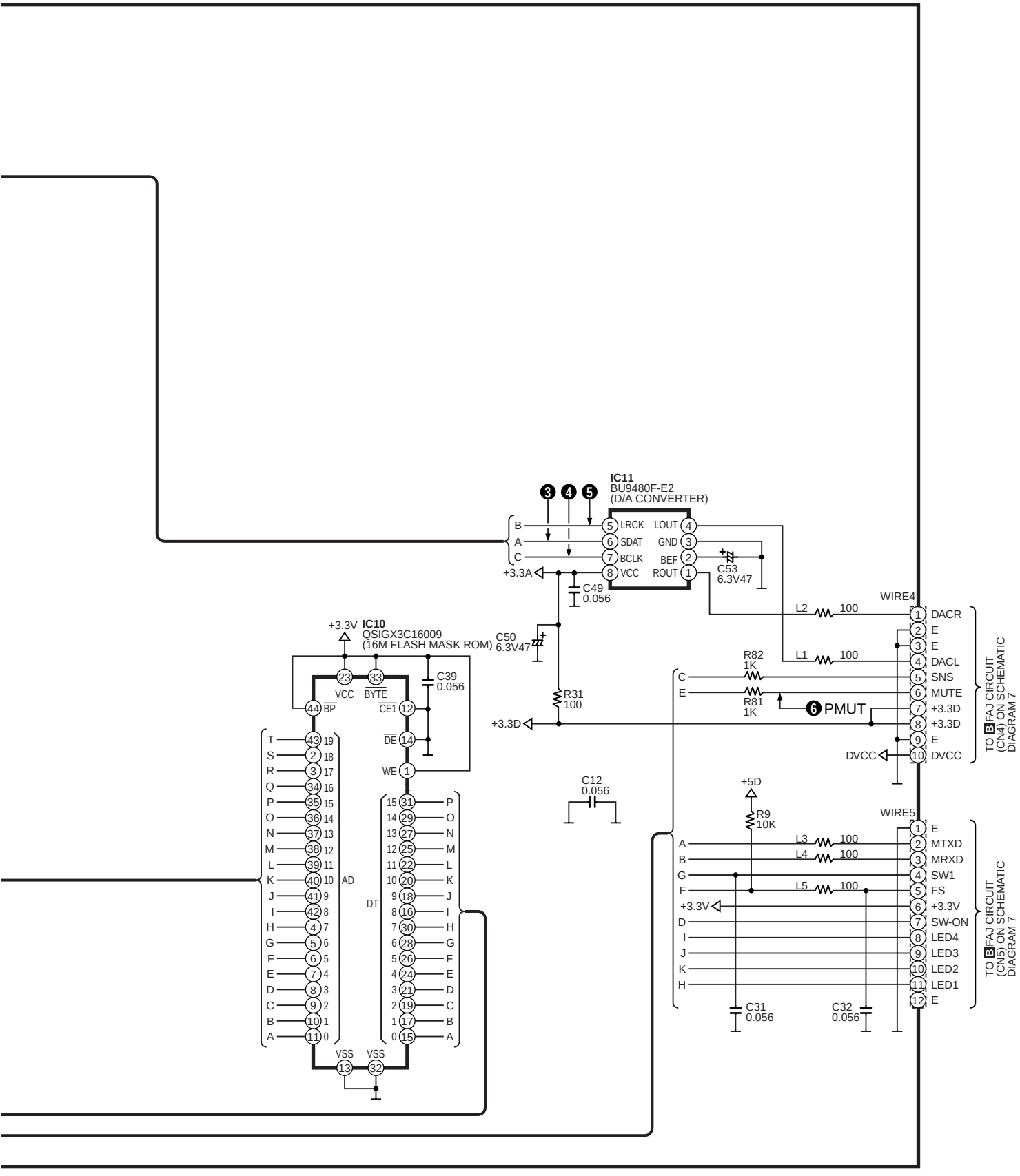
SCHEMATIC DIAGRAM-4



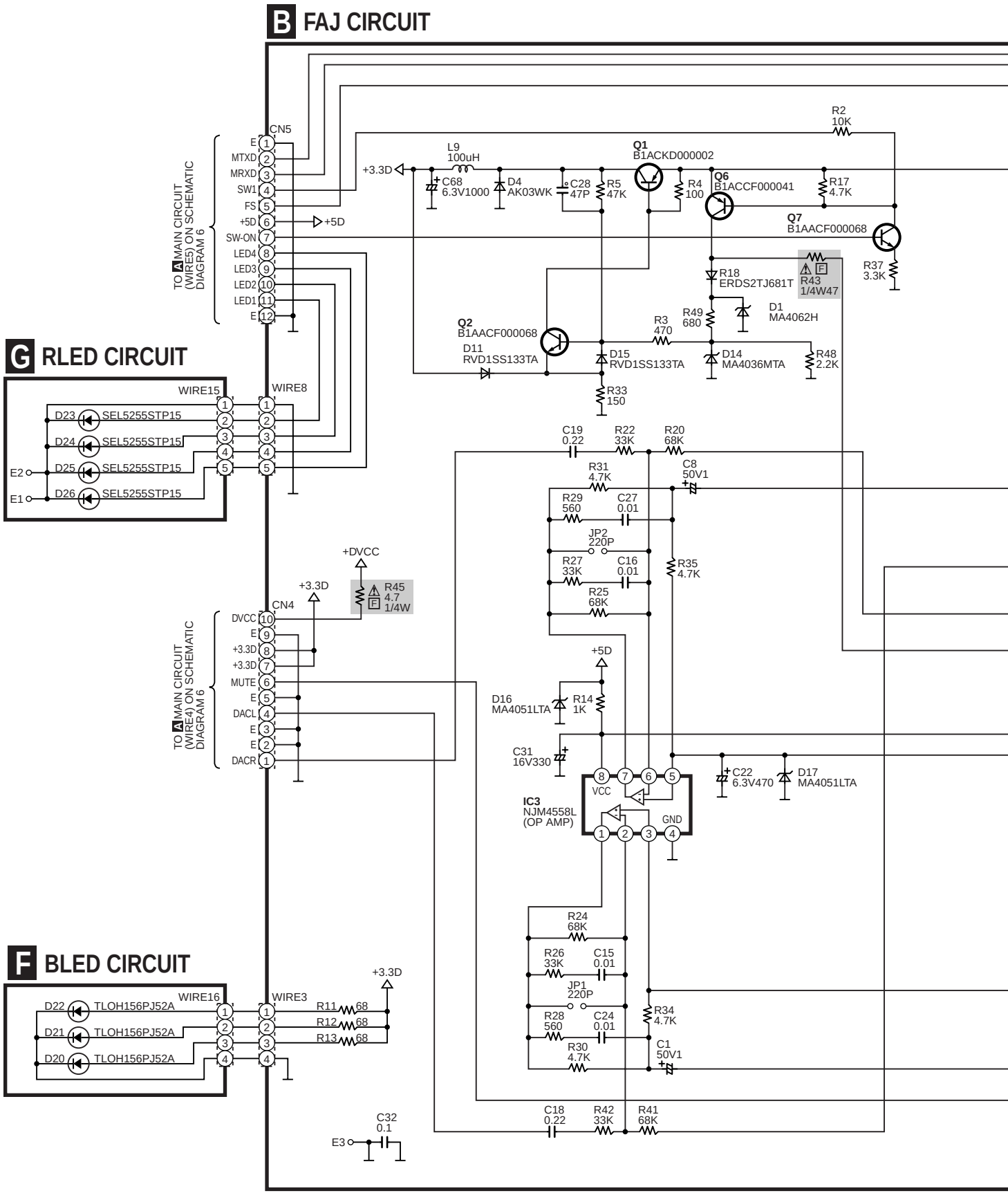
SCHEMATIC DIAGRAM-5


2 TG CLOCK
R50 1M
C40 0.01
X3 32MHz
R51 47
C57 10P
C58 10P
A B C
L E D M
R152 220
R153 220
R154 220
R155 1K
R156 1K
R157 1K
R158 1K
+3.3V
C27 0.056
C28 0.056
C29 0.056
IC4
TC200C060003
(LSI)
MRD MWE MCS MRST TEMOD1 TEMOD0 VSS XO XI VDD VSS DIVOUT SD0 LRCK BCK DT11 DT14 DT13 DT12 DT10
A1 A2 D15 D14 D13 D12 VSS VDD D11 D10 D9 D8 D7 D6 VSS D5 D4 D3 D2 D1 D0 CK0 VDD SK00 SK01 KB0 KB1 NC KB2 KB3
DT5 DT2 NC DT13 DT9 DT6 DT1 VDD DT14 DT8 DT7 DT0 DT15 AD16 VSS AD0 AD15 AD1 AD14 AD2 AD13 AD3 VDD VSS AD12 AD4 AD11 AD5 AD10 AD6
KB4 KF0 KS0 KF1 KS1 KF2 KS2 KF3 VSS VSS VDD KS3 AD21 AD20 AD18 AD19 AD17 AD8 AD7 AD9
TP36
TP38
TP39
R159 1K K
R160 1K F
R161 1K C
R162 1K N
R163 1K J
R164 1K G
R165 1K B
R166 1K O
R167 1K I
R168 1K H
R169 1K A
R170 1K P
R171 1K Q
R172 1K A
R173 1K P
R174 1K B
R175 1K O
R176 1K C
R177 1K N
R178 1K D
R179 1K M
R180 1K E
R181 1K L
R182 1K F
R183 1K K
R184 1K G
R185 1K J
R186 1K H
E F G H I J K L M
R190 1K
R189 1K
R188 1K
R187 1K
S T R I

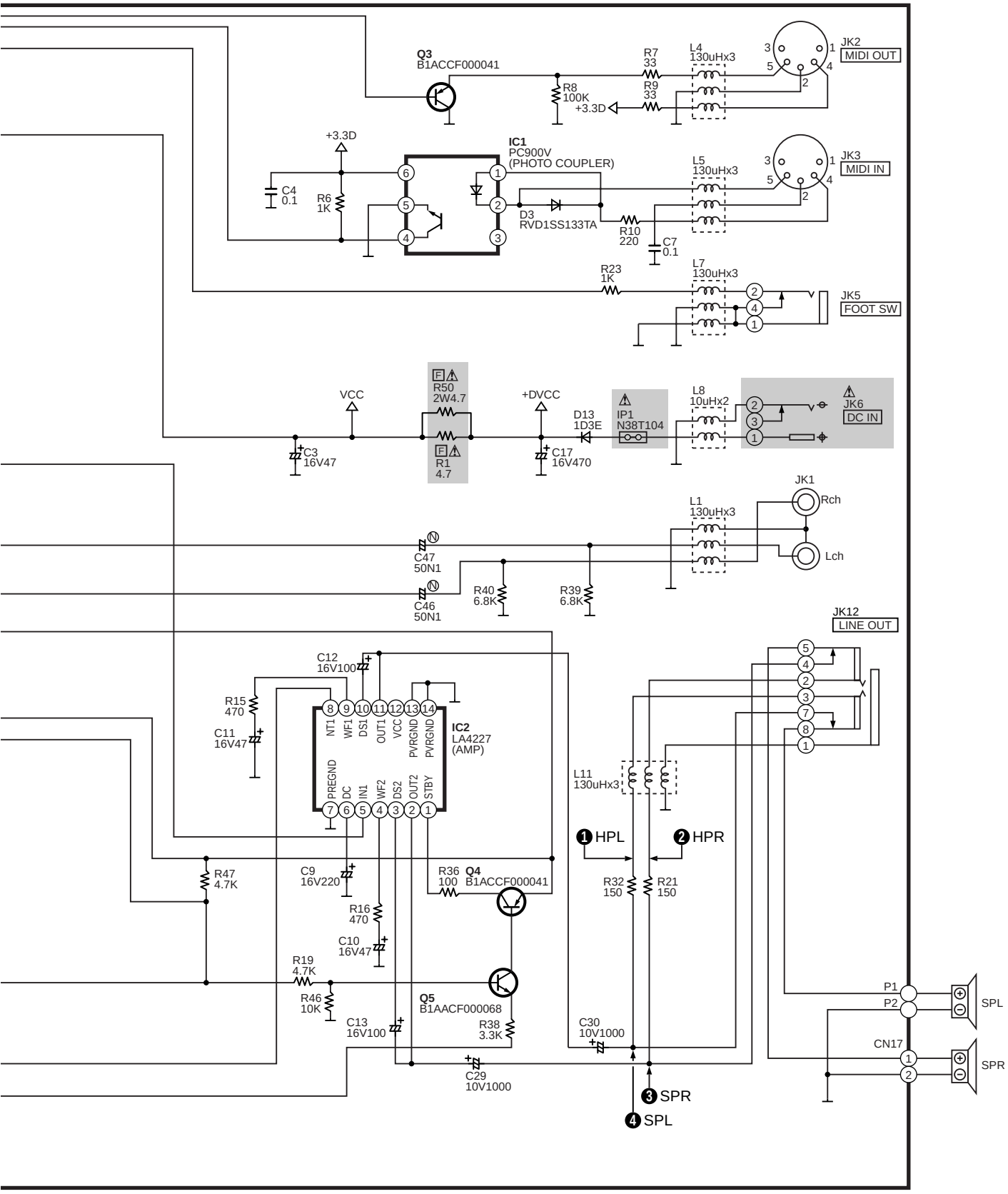
SCHEMATIC DIAGRAM-6



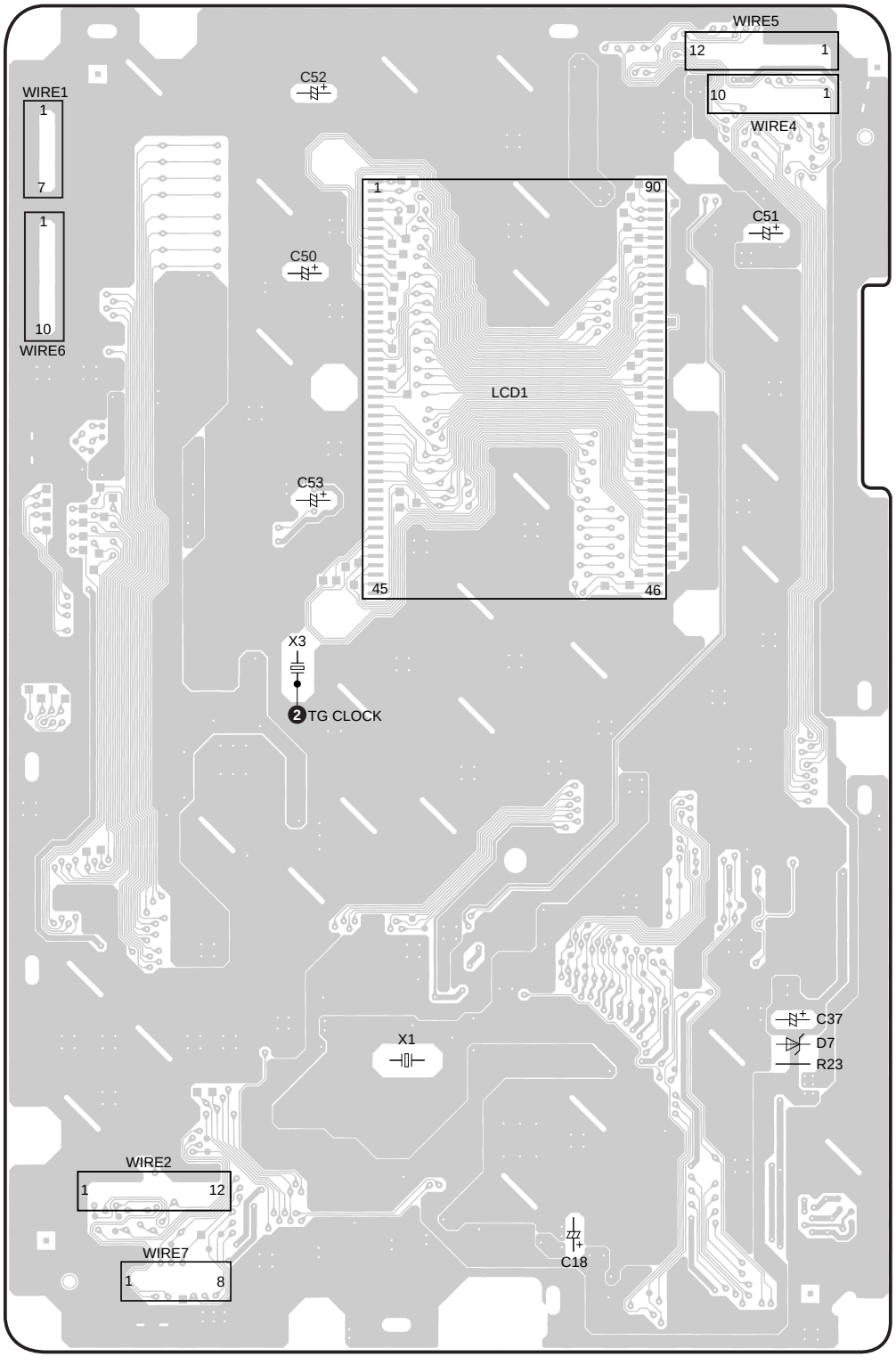
SCHEMATIC DIAGRAM-7



SCHEMATIC DIAGRAM-8

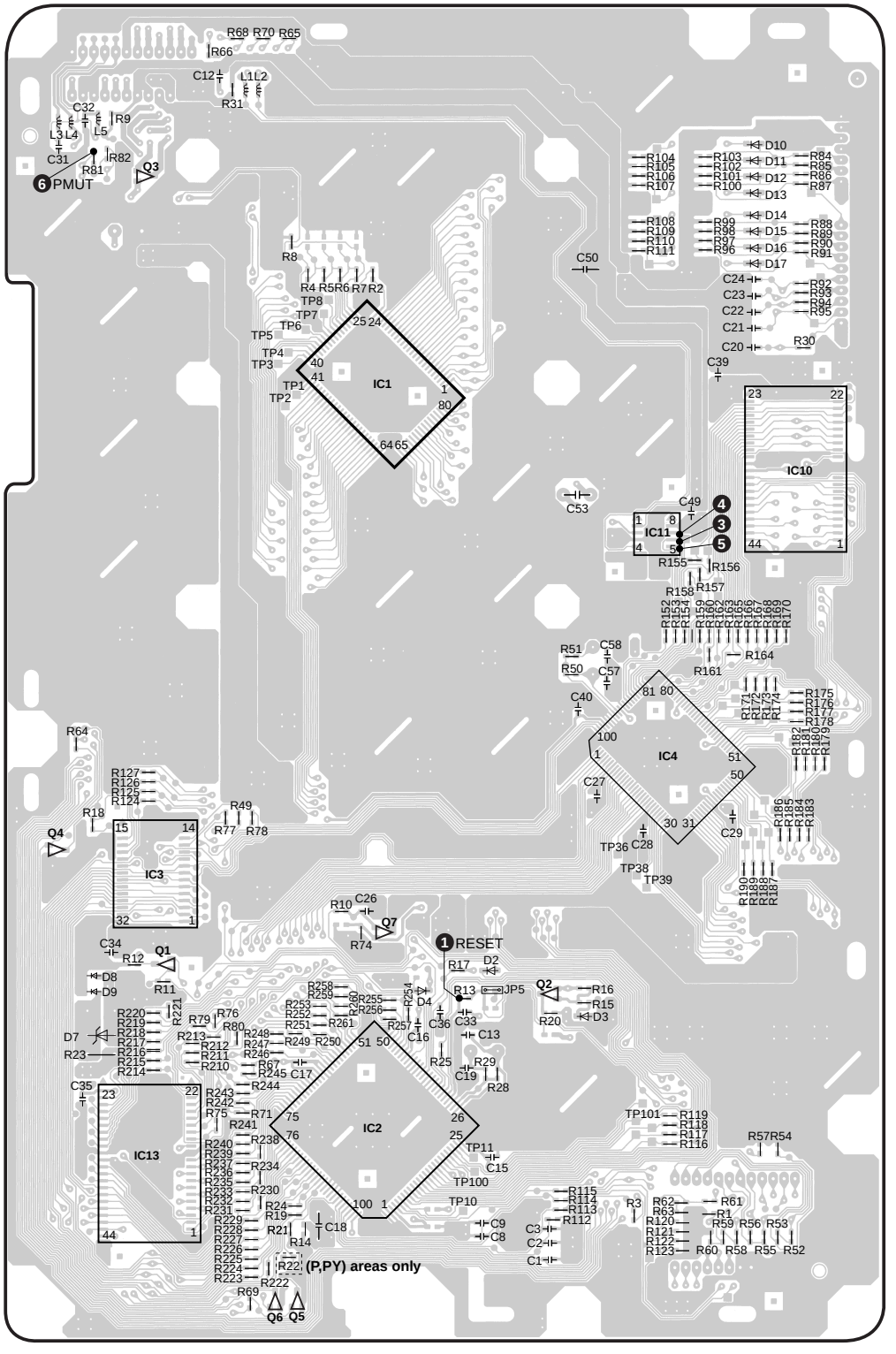


A MAIN P.C.B. (COMPONENT SIDE)



(SXPG234531 [except(P,PY)]
SXPG234541 [P,PY])

A MAIN P.C.B. (FOIL SIDE)



(SXPG234531 [except(P,PY)]
SXPG234541 [P,PY])

ORDER NO. EMID0003003C0

A5

Service Manual

PCM KEYBOARD

SX-KC200

(P) U.S.A.

(PC) Canada

(PY) Mexico

(EX) Norway, Sweden, Denmark, Finland, Spain, Portugal, Greece, South Africa

(EF) France

(EZ) Germany

(EG) Switzerland, Italy, Austria, Holland, Belgium

(EP) Russia

(EB) the United Kingdom

(GN) Australia, New Zealand

(XS) Malaysia, Singapore

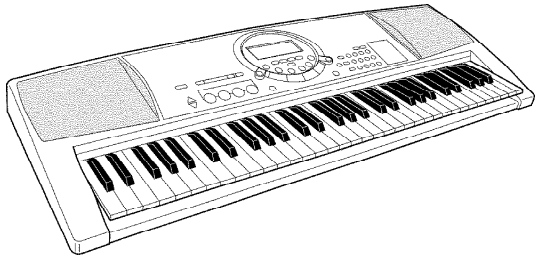
(XT) Taiwan

(X) Thailand, Indonesia, U.A.E., Columbia, Panama, Chile, Brazil, Philippines

(XA) Argentina

(XD) Saudi Arabia, Hong, Kong, Kuwait

(XC) China



SPECIFICATIONS

SPECIFICATIONS

KEYBOARD	61 KEYS (WITH INITIAL TOUCH)
SOUND GENERATOR	PCM
MAX. POLYPHONY	24 NOTES
SOUNDS	150 SOUNDS
EFFECT	TOUCH, SUSTAIN
HARMONY	10 TYPES
TRANSPOSE	G - C - F#
RHYTHMS	100 RHYTHMS
RHYTHM CONTROL	SYNCHRO START, START/ STOP, COUNT INTRO, FILL IN, TEMPO
PERFORMANCE PADS	4 PADS, 4 BANKS
AUTO PLAY CHORD	MODE: ONE FINGER, FINGERED, PIANIST
MUSIC TRAINER	BEAT MASTER, CHORD FINDER, PIANO STYLIST, SOLO PIANO, MINUS ONE, 100 SONGS
CONTROL	MAIN VOLUME, APC/SONG VOLUME, ONE TOUCH PLAY, EXECUTE, MENU
DISPLAY	CUSTOM LCD (WITH BACKLIGHT)
TERMINALS	MIDI IN, MIDI OUT, FOOT SW, PHONES/LINE OUT, AUX IN
OUTPUT	5 W (2.5 W × 2)
SPEAKERS	12 cm × 2
POWER REQUIREMENT	DC IN 10 V (WITH EXCLUSIVE AC ADAPTOR)
POWER CONSUMPTION	4.4 W (WHEN POWER IS OFF BY THE PLAY BUTTON: 2 W)
DIMENSIONS (W×H×D)	96.0 cm × 14.6 cm × 37.8 cm (37-25/32" x 5-3/4" x 14-7/8")
NET WEIGHT	5.1 kg (11.2 lbs)
ACCESSORIES	AC ADAPTOR, MUSIC STAND, SONG BOOK

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic®

1. WARNING

To prevent the risk of fire, smoke, or electrical shock and to ensure safe operation, please be sure to follow the safety guidelines below.

1. At places where special caution is required, the necessary safety

precautions are clearly labeled or printed, for example, on the cabinet, or on the part concerned. Please follow these safety precautions, and also those listed in the Owner'sManual.

2. Parts which have a ⚠ mark in the circuit diagram or in the parts list are essential for safety. When replacing these parts, be sure to use only the specified parts.
3. Use the specified types for internal wiring (double-insulated wiring, etc.).
4. When replacing parts on the AC primary side (power transformer, electric switch, electrical cord, noise-prevention condenser, etc.), wind the lead wire and secure it by soldering.
5. Do not let the wiring come into contact with heat-emitting devices (fuse resistor, radiator plate, etc.).
6. When replacing the wiring, make sure that it is not in contact with the unfinished or rough edge of a part.
7. When replacing the power cord (except for the plug-in type), tug it from various directions to confirm that it does not slip out of place.
8. Spacing
   If soldering was done on the AC primary circuit, confirm that the interval between the soldered terminals or between the terminal and surrounding metallic parts is at least the minimum required (between the primary circuit and the chassis: atleast 6.5 mm; between primary circuit terminals: at least 4.0 mm; between primary circuit terminals and secondary circuit terminals: at least 6.5 mm.).

2. SAFETY PRECAUTION

2.1. Safety precaution

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only the manufacturer’s recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage

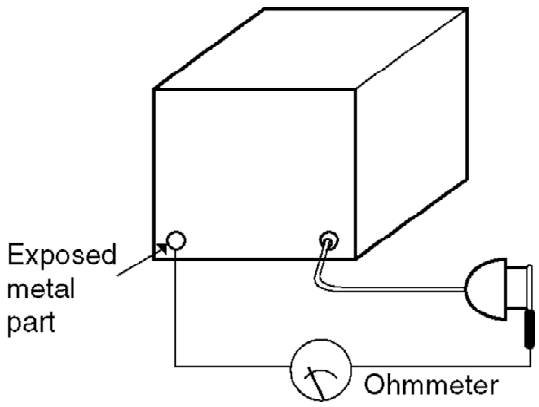
is evident.

4. **After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.**
5. **Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.**

2.2. Insulation resistance test

1. **Unplug the power cord and short the prongs of the plug with a jumper wire.**
2. **Turn on the power switch.**
3. **Measure the resistance value with an ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screw heads, connectors, control shafts, handle brackets, etc. Measurements should range from 4 MOhm to infinity for allexposed parts.**

Figure-1



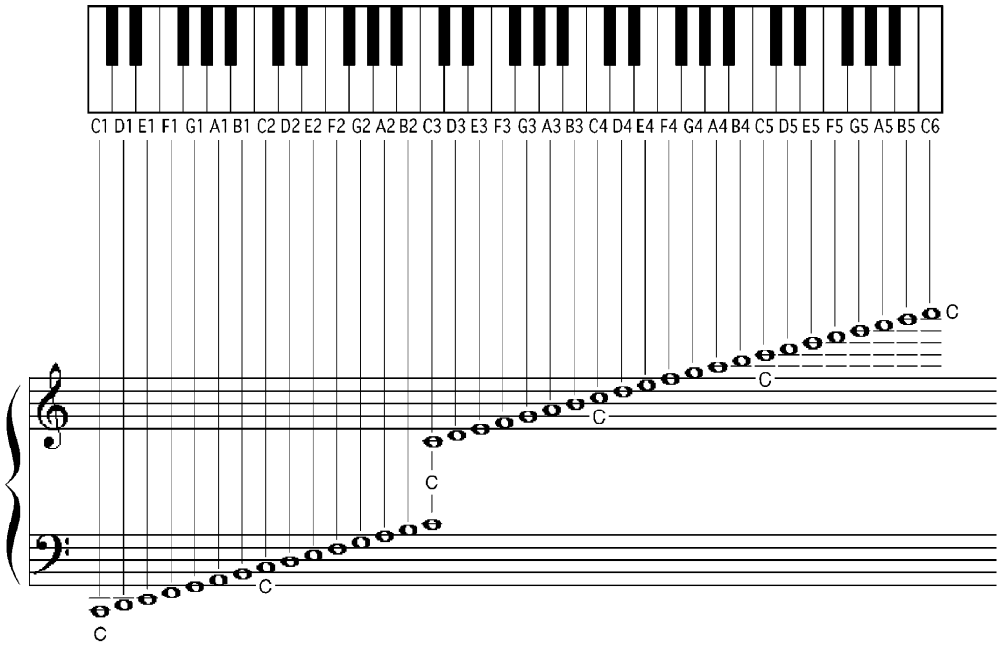
Resistance = 4MΩ to ∞

3. OWNERS MANUAL

4. KEYBOARD RANGES

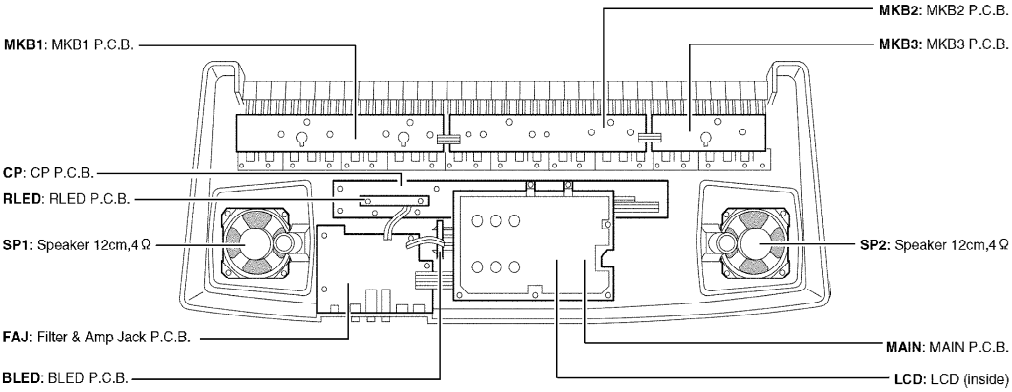
This keyboard features Touch Response, by which you control the volume by playing the keys harder or softer.

Figure-2



5. PARTS LOCATION

Figure-3

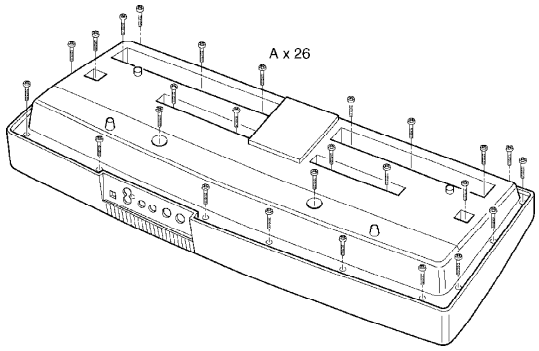


6. DISASSEMBLY INSTRUCTIONS

6.1. Opening the top cabinet

1. Turn the keyboard cabinet upside down, and remove the bottom screws (A 26 pcs.) as shown in Figure-4 .
2. Place the keyboard bottom side down, and open the top cabinet.

Figure-4



6.2. Removing the MAIN and FAJ P.C.B.s

- Open the top cabinet (see step " Opening the top cabinet ").
- Pull out the connectors on the printed circuit boards.

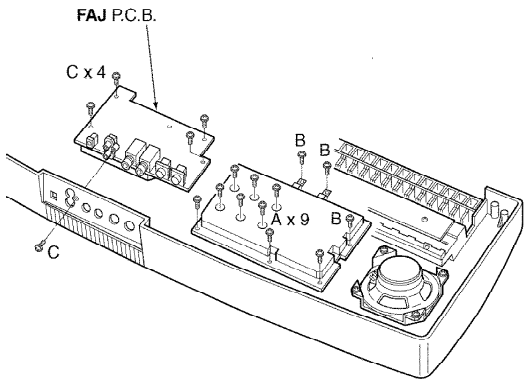
MAIN P.C.B.

- Remove the MAIN P.C.B. mounting screws (A 9 pcs. and B 3 pcs.) as shown in Figure-5 .
- When installing the MAIN P.C.B., first affix the B screws (3 pcs.) to facilitate correct positioning

FAJ P.C.B.

- Remove the FAJ P.C.B. mounting screws (C 5 pcs.) as shown in Figure-5 .

Figure-5



6.3. Removing the LCD, CP, BLED and RLED P.C.B.s

- Remove the MAIN P.C.B. (see step " Removing the MAIN and FAJ P.C.B.s ").

LCD

- Remove the LCD.

RLED P.C.B.

- Remove the RLED P.C.B. mounting screws (A 2 pcs.) as shown in Figure-6 .

BLED P.C.B.

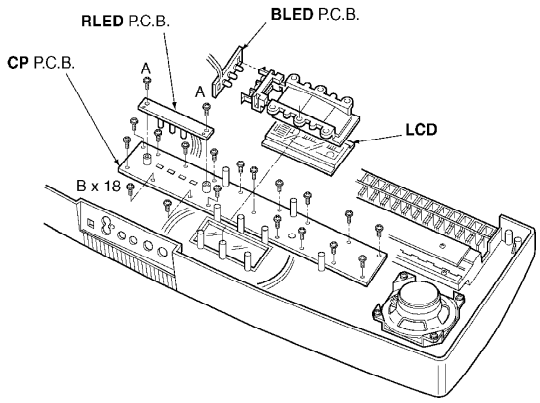
- Release the claws and remove the BLED P.C.B. as shown in the Figure-6 .

CP P.C.B.

1. Remove the RLED P.C.B. (see " RLED P.C.B. " above).

2. Remove the CP P.C.B. mounting screws (B 18 pcs.) as shown in Figure-6 .

Figure-6



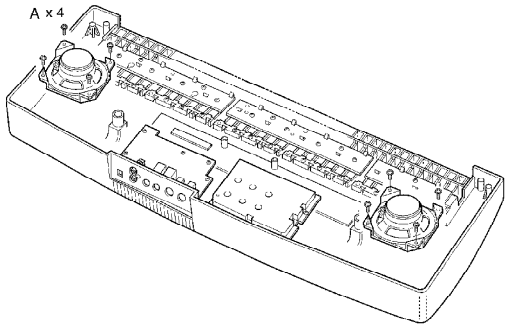
6.4. Removing the speakers

- Open the top cabinet (see step " Opening the top cabinet ").

Speakers

- Remove the speaker mounting screws (A 4 pcs.) as shown in Figure-7 .

Figure-7



6.5. Removing the MKB1, MKB2 and MKB3 P.C.B.s

- Open the top cabinet (see step " Opening the top cabinet ").

MKB1 P.C.B.

1. **Remove the MKB1 P.C.B. mounting screws (A 3 pcs.) as shown in Figure-8 .**
2. **Release the claws and remove the MKB1 P.C.B.**

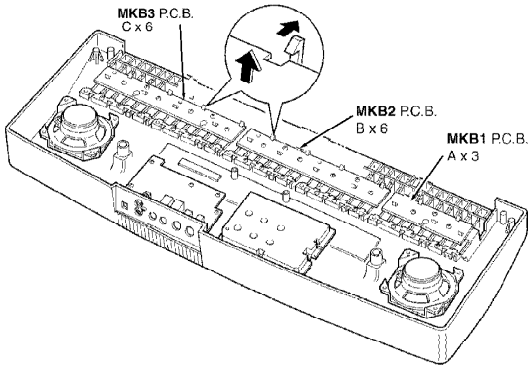
MKB2 P.C.B.

1. **Remove the MKB2 P.C.B. mounting screws (B 6 pcs.) as shown in Figure-8 .**
2. **Release the claws and remove the MKB2 P.C.B.**

MKB3 P.C.B.

1. **Remove the MKB3 P.C.B. mounting screws (C 6 pcs.) as shown in Figure-8 .**
2. **Release the claws and remove the MKB3 P.C.B.**

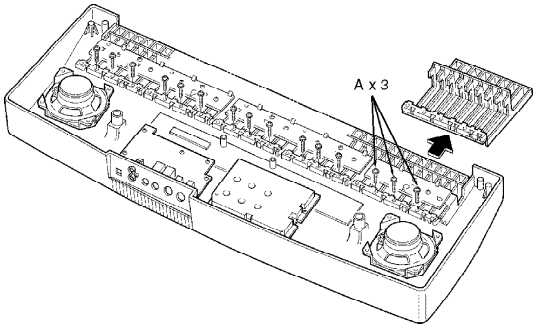
Figure-8



6.6. Removing the key sets

1. Open the top cabinet (see step " Opening the top cabinet ").
2. Remove the key set mounting screws (A 3 pcs. for each key set) as shown in Figure-9 .
3. Remove the key set.

Figure-9



7. SELF-DIAGNOSTIC FUNCTIONS

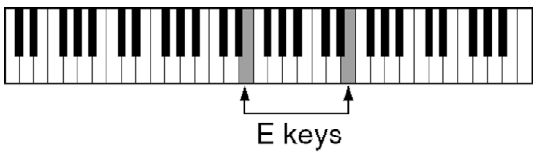
The self-diagnostic functions make it possible to determine whether the various test modes pass or fail. The test modes are completely independent of one another. Select a test mode as necessary, and run the test.

- Before performing the test using the sine wave, adjust the volume to the appropriate level.

7.1. SOUND SYSTEM test

1. Press and hold the two E keys shown below, and then turn on the power switch.

Figure-10



2. Use the numeric button in the Number buttons to select an item from 0 to 5. Press a keyboard key.

0: FULL w/o
Generate a full amplitude sine wave in the pitch of each key. (Without touch, fixed stereo center).
If no sound is generated or if the sound is distorted, the sound generator ROM corresponding to the key position is defective.

1: OUTSEL
For confirming the output pathway from the sound generator. (Fixed scale, no touch)
The L ch (C key) and R ch (C#-B keys) sound outputs are confirmed separately.

2: +2 OCT
Generate a full amplitude sine wave in the pitch of each key +2 octaves. (Without touch, fixed stereo center)
By generating a sound frequency outside the normal keyboard zone, you can confirm whether or not there is an abnormality in the sound output frequency zone.

3: -2 OCT
Generates a full amplitude sine wave in the pitch of each key -2 octaves. (Without touch, fixed stereo center)
By generating a sound frequency outside the normal keyboard zone, you can confirm whether or not there is an abnormality in the sound output frequency zone.

4: NORMAL w
Generate a sine wave in the pitch of each key with touch.
You can confirm if the volume changes depending on the touch.

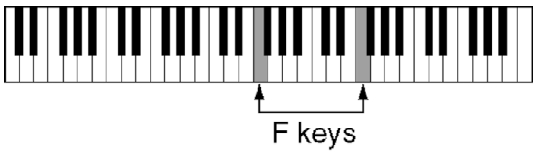
5: -16dB
Generate a full amplitude sine wave in the pitch of each key at a -16 dB volume. (Without touch, fixed stereo center)
You can confirm the same sound output as in 0:FULL w/o, at a lower volume.

7.2. Panel SW & LED test

1. Press and hold the two F keys shown below, and then turn on the

power switch. “SW & LED” is displayed on the LCD.

Figure-11



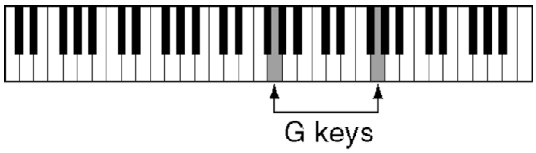
2. Press all the buttons on the Control Panel and confirm that all the PERFORMANCE PADS LEDs light and sine wave is produced.

   - If an LED fails to light or no sound is produced, the cause may be a defective switch or a break in the surrounding circuit, etc.
   - After all the buttons (except PLAY) have been pressed, all the PERFORMANCE PADS LEDs blink several times.

7.3. LCD module test

1. Press and hold the two G keys shown below, and then turn on the power switch.

Figure-12



2. All the dots light on and off three times. All characters are displayed in the text display area.

   - If the correct display is not shown during these tests, the LCD or LCD drive circuit may be defective.

8. PRECAUTIONS BEFORE SERVICING

8.1. Precautions for measuring of the output waveforms

1. The waveform was measured with a “National Digital Storage Oscilloscope VP-5730A”. Therefore the waveforms of musical tone signals shown may differ somewhat due to the difference in the timing of triggering.
2. Since the 1/10 test probe is used, the indicated voltage value on the bottom part of each waveform illustration is 1/10 of the actual value (e.g. 0.2 V/cm should be 2.0 V/cm).

3. To measure the waveforms, first set this unit to the service diagnostic mode (refer to " SOUND SYSTEM test " on SOUND SYSTEM test). The WAVEROM output will then be output as a sine wave to facilitate the servicing check.

8.2. Important safety notice

- Components identified by a ⚠ mark have special characteristics important for safety.
- When replacing any of these components, use only manufacture's specified parts.

8.3. Symbolic marks

The symbolic marks for resistors and capacitors which used in this circuits are classified as following Table-1 and Table-2 .

8.3.1. Resistors

- Resistors without symbolic mark are FIXED CARBON FILM RESISTORS (ERD-type).
- All resistors are 1/4 WATT, ±5 % TOLERANCE unless otherwise designated in schematic diagrams.

Table-1

SYMBOL	SPECIFICATION
Ⓕ	Fixed Carbon Film Resistors "FLAME-PROOF" (ERD—F—type)
Ⓕ	Fixed Wire Wound Resistors "FLAME-PROOF" (ERF—type)
Ⓕ	Fixed Metal Oxide Film Resistors "FLAME-PROOF" (ERG—type)
Ⓕ	Fixed Metal Film Resistors "FLAME-PROOF" (ERX—type)
Ⓖ	Fixed Metal Film Resistors (Precision and High Stability) (ERO—type)
F	Fuse Type Fixed Metal Oxide Film Resistors "FLAME-PROOF" (ERQ—type)
F	Fuse Type Fixed Carbon Film Resistors "FLAME-PROOF" (ERD2FC—type)

8.3.2. Capacitors

- Capacitors without symbolic mark are POLYESTER CAPACITORS. (ECQM-type, ECQG-type, ±10% Tolerance)
- Polarized capacitors without symbolic mark are Aluminum

Electrolytic Capacitors. (ECEA-type, ±20% Tolerance)

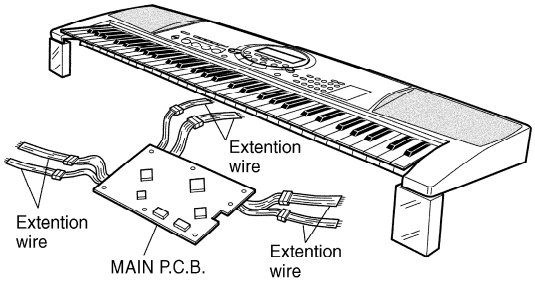
Table-2

SYMBOL	SPECIFICATION	TYPE
N	Non-Polarized Electrolytic Capacitors	ECEA_KN_type
Y	Non-Polarized Electrolytic (for Network system)	ECEA_Y_type
T	Tantalum Solid Electrolytic Capacitors	ECS_type
TF	Metallized Plastic Film Capacitors (TF Series)	ECQV_type
	Temperature Compensating Ceramic Capacitors	ECC_type
	High-Dielecytric Constant Ceramic Capacitors	ECK_type, ECR_type
	Axial Lead Ceramic Capacitors	ECB_type
	Metallized Polyester Film Capacitors for Across the Line	ECQ_EW_type
	Aluminum Electrolytic Capacitors for Smoothing Circuit	ECES_type
	Multilayer Ceramic Chip Capacitors	ECUV_type

9. CHECKING THE MAIN P.C.B.

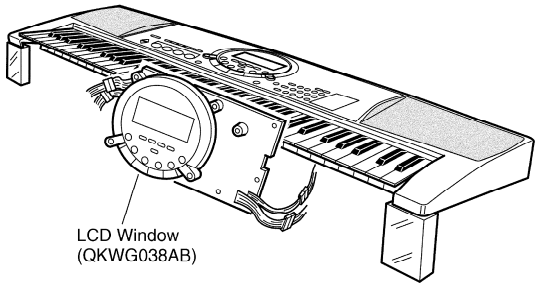
1. Open the top cabinet (refer to " Opening the top cabinet " on Opening the top cabinet).
2. Remove the MAIN P.C.B. (refer to " Removing the MAIN and FAJ P.C.B.s " on Removing the MAIN and FAJ P.C.B.s).
3. Remove the Disk Drive unit (refer to " Removing the speakers " on Removing the speakers).
4. Remove the LCD (refer to " Removing the LCD, CP, BLED and RLED P.C.B.s " on Removing the LCD, CP, BLED and RLED P.C.B.s).
5. Connect the MAIN P.C.B. to the original circuit with the extension wires (RFKZ0091) as shown in Figure-13 .
6. Lift and hold the top cabinet by inserting some cigarette case size objects beneath as shown in Figure-13 .

Figure-13



- When checking LCD, install the LCD Window (QKWG038AB) as shown in Figure-14 .

Figure-14

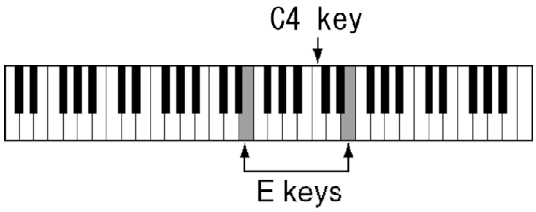


10. MEASURING CONDITION

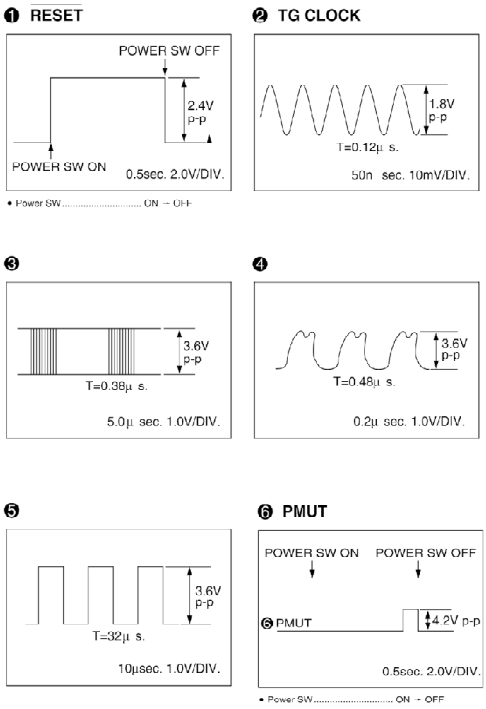
10.1. Measuring condition of MAIN P.C.B.

Check Point 2 - 5
Set to the Self-diagnostic Mode followings.

- While pressing two E keys simultaneously, turn on the power switch.
- MAIN VOLUME: Max.
- Keyboard: C 4



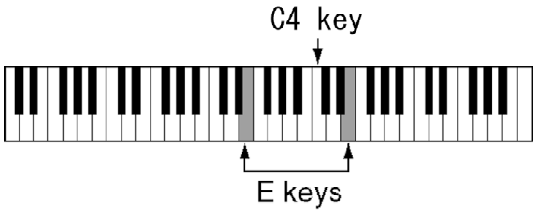
Check Point 1and 6
Set to the Initial mode (refer to " OWNERS MANUAL ").

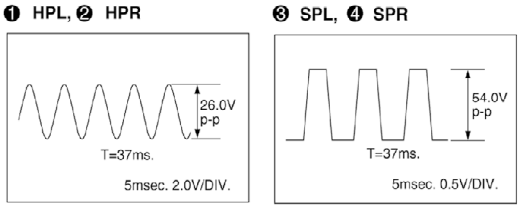


10.2. Measuring condition of FAJ P.C.B.

Check Point 1 - 4
Set to the Self-diagnostic Mode followings.

- **While pressing two E keys simultaneously, turn on the power switch.**
- **MAIN VOLUME: Max.**
- **Keyboard: C 4**





11. SCHEMATIC DIAGRAM

12. PRINTED CIRCUIT BOARD

12.1. MAIN,FAJ P.C.B.

12.2. MKB1,MKB2,MKB3,BLED,RLED,CP P.C.B.

13. BLOCK DIAGRAM

14. WIRING CONNECTION DIAGRAM

15. REPLACEMENT PARTS LIST

Notes:
***Important safety notice:**
Components identified by ⚠ mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.
***Warning: This product uses a laser diode. Refer to caution statements.**
***ACHTUNG: Die lasereinheit nicht zerlegen. Die lasereinheit darf nur gegen einc vom hersteller spezifizierte einheit ausgetauscht werden.**
***Capacity values are in microfarads (uF) unless specified otherwise. P=Pico-farads (pF), F= farads (F)**
***Resistance values are in ohms, unless specified otherwise. 1K=1,000 (OHM), 1M=1,000K (OHM)**
***The marking <RTL> indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retentionperiod of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.**
***"<IA>"-"<IH>" marks in Remarks indicate languages of instruction manuals. [<IA>: Dansk, <IB>: English, <IC>: English, <ID>:French, <IE>: Germany, <IF>: Italiano, <IG> : Espanol, <IH>: Nederlands]**
***MAIN, FAJ, BLED, RLED, MKB1, MKB2 MKB3 and CP in Remarks indicate the Circuits and P. C. B.s. If the same Ref. No. is found in the replacement parts list, check those indications in the Remarks.**
***[M] indicate in Remarks columns parts that are supplied by MESA.**
***(M) indicate in Remarks columns parts that are supplied by EMID.**

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	QGPG0148BA	CONTOROL PANEL	1	[M]
2	QGMG0026AB	PUNCHING NET(L/R)	2	[M]
3	SHSG1970A	KEY FELT(UPPER/LOW)	2	(E)
4	QMWG6014CAK	KEY SWITCH(13KEY)	1	(E)
5	QMWG6015CAK	KEY SWITCH(12KEY)	4	(E)
6	QMRG1034AA	BACKLIGHT COVER	1	[M]
7	QMGG064AA	RUBBER CONTACT	2	[M]
8	QSLG027AA	LCD	1	[M]
9	QMRG1032AA	BACK LIGHT COVER	1	[M]
10	QMRG2096AA	LIGTH SPREAD SHEET	1	[M]
11	QGPG0149BA	LCD PANEL	1	[M]
12	QKWG038AB	LCD WINDOW	1	[M]
13	RFKJXKC200PY	BOTTOM CABINET ASS'Y	1	PY ONLY[M]
13	RFKJXKC200-P	BOTTOM CABINET ASS'Y	1	P ONLY[M]
13	RFKJXKC200PC	BOTTOM CABINET ASS'Y	1	EXCEPT P ,PY[M]
14	QGUG1487AB	BUTTON A	1	[M]
15	QGUG1488AB	BUTTON B	1	[M]
16	QGUG1494AB	BUTTON H	1	[M]
17	QGUG1490AB	BUTTON D	1	[M]
18	QGUG1491AB	BUTTON E	1	[M]
19	QGUG1492AB	BUTTON F	1	[M]
20	QGUG1493AB	BUTTON G	1	[M]
21	QMRG5218AA	LEG FELT	4	[M]
22	QMRG1033AA	LIGHTING CHIP	1	[M]
23	QHDG064AA	SCREW	5	[M]
24	XYE3+FG12	SCREW	3	(E)
25	QMRG2099AA	REFLECTION SHEET	1	[M]
26	QEXGVH02060C	SPEAKER WIRE (R)	1	[M]
27	QASG12P09A	SPEAKER UNIT	2	[M]
31	QMWG1030AAK	WHITE KEY (4KEY)	5	[M]
32	QMWG1031AAK	WHITE KEY(3KEY)	4	[M]
33	QMWG2004AAK	BLACK KEY (5KEY)	5	[M]
34	QMWG1031BAK	WHITE KEY(5KEY)	1	[M]
35	XTB3+10JFZ	SCREW	21	(E)
36	XTB3+20JFZ	SCREW	41	[M]
37	XTBS26+10J	SCREW	35	(E)
38	QGNGKC200CA	NAME PLATE	1	PC[M]
38	QGNGKC200EA	NAME PLATE	1	EX, EZ, EG, EF[M]
38	QGNGKC200KA	NAME PLATE	1	EB[M]
38	QGNGKC200DA	NAME PLATE	1	X ,XS ,XD ,XT XA[M]
38	QGNGKC200AA	NAME PLATE	1	GN[M]
38	QGNGKC200TA	NAME PLATE	1	XC[M]
38	QGNGKC200RA	NAME PLATE	1	EP[M]
39	QPGG0469AA	MUSIC RACK PAT	1	[M]
40	QPHG080AAK	MIRAMAT(BAG)	1	[M]
41	SJP5213-2	ATTACHMENT PULAG	1	⚠ X ,XT ONLY(E)
42	QQAG018A	REQUEST WARRANTY CARD	1	EB ONLY[M]
43	QMRG5226AA	URETHAN TAPE (B.B.D)	1	[M]
44	QMRG5227AA	URETHAN TAPE (B.B.D)	1	[M]
45	QGAG2017AA	MUSICÅ@RACK	1	[M]
46	QPFG083AA	MUSIC RACK BAG	1	[M]
47	QFAG033AA	AC ADAPTOR	1	⚠ P ,PC, PY[M]
47	QFAG035AA	AC ADAPTOR	1	⚠ EX ,EZ ,EG, EF[M]

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
47	QFAG034AA	AC ADAPTOR	1	⚠ EB[M]
47	QFAG016AB	AC ADAPTOR	1	⚠ X, XS ,XT(E)
47	QFAG036AA	AC ADAPTOR	1	⚠ GN[M]
47	QFAG018AB	AC ADAPTOR	1	⚠ XD(E)
47	QFAG026AA	AC ADAPTOR	1	⚠ XA[M]
47	QFAG042AA	AC ADAPTOR	1	⚠ XC[M]
47	QFAG043AA	AC ADAPTOR	1	⚠ EP[M]
48	QQTG0547A	SONG BOOK	1	[M]
49	QQCG0377A	BEAT MASTER SHEET	1	P, EB, GN ,XS, XD, XT ,XC, EP[M]
50	QQTG0538A	INSTRUCTION MANUAL	1	P[M]
50	QQTG0539A	INSTRUCTION MANUAL	1	PY ,EX ,X ,XA[M]
50	QQTG0540A	INSTRUCTION MANUAL	1	PC, PY, EX, EB, X ,GN ,XS, XD[M]
50	QQTG0540A	INSTRUCTION MANUAL	1	XT, XA ,XC, EP[M]
50	QQTG0541A	INSTRUCTION MANUAL	1	PC, EG, EF [M]
50	QQTG0542A	INSTRUCTION MANUAL	1	EZ, EG[M]
50	QQTG0543A	INSTRUCTION MANUAL	1	EG[M]
50	QQTG0544A	INSTRUCTION MANUAL	1	XD ,XC[M]
50	QQTG0545A	INSTRUCTION MANUAL	1	EP[M]
50	QQTG0546A	INSTRUCTION MANUAL	1	XT[M]
51	QQCG0370A	REFARENCE GUIDE	1	[M]
52	RQCB0831	SERVICE CENTER LIST	1	P ONLY[M]
53	RQX7433ZA	WARRANTY CARD	1	GN ONLY[M]
53	QQAG016A	WARRANTY CARD	1	P ONLY[M]
54	QQCG0373A	USER CARD	1	P ONLY[M]
55	QPFG088AA	FAN BAG	1	[M]
56	QPGG0467AC	CARTON BOX	1	[M]
56	QPGG0467AD	CARTON BOX	1	XC ONLY[M]
57	QPNG0754BA	CUTTION(L)	1	[M]
58	QPNG0755AA	CUTTION(R)	1	[M]
C1	ECEA1HKA010	50V 1U	1	FAJ[M]
C1	ECUV1H471JG	470PF	1	MAIN(E)
C2	ECFR1E104ZF5	25V 0.1U	1	FAJ[M]
C2	ECUV1H471JG	470PF	1	MAIN(E)
C3	ECEA1CKA470	16V 47PF	1	FAJ[M]
C3	ECKR1H223ZF5	0.022U	1	MKB1[M]
C3	ECUV1H471JG	470PF	1	MAIN(E)
C4	ECFR1E104ZF5	25V 0.1U	1	FAJ[M]
C4	ECKR1H223ZF5	0.022U	1	MKB2[M]
C5	ECCR1H221J5	220PF	1	FAJ[M]
C5	ECKR1H223ZF5	0.022U	1	MKB2[M]
C6	ECEA0JKA470E	6.3V 47U	1	MKB2(E)
C6,C7	ECFR1E104ZF5	25V 0.1U	2	FAJ[M]
C8	ECEA1HKA010	50V 1U	1	FAJ[M]
C8	ECUV1H471JG	470PF	1	MAIN(E)
C9	ECA1CM221B	16V 220PF	1	FAJ(E)
C9	ECUV1H471JG	470PF	1	MAIN(E)
C10	ECCR1H221J5	220PF	1	MKB1[M]
C10	ECEA1CKA470	16V 47PF	1	FAJ[M]
C11	ECCR1H221J5	220PF	1	MKB1[M]
C11	ECEA1CKA470	16V 47PF	1	FAJ[M]

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C12	ECA1CM101B	16V 100PF	1	FAJ(E)
C12	ECCR1H221J5	220PF	1	MKB1[M]
C12	ECUV1H563KBN	0.056U	1	MAIN[M]
C13	ECA1CM101B	16V 100PF	1	FAJ(E)
C13	ECCR1H221J5	220PF	1	MKB1[M]
C13	ECUV1H100DCN	10PF	1	MAIN(E)
C14	ECCR1H221J5	220PF	1	MKB1[M]
C14	ECEA1CKA470	16V 47PF	1	FAJ[M]
C14	ECUV1H563KBN	0.056U	1	MAIN[M]
C15	ECCR1H221J5	220PF	1	MKB1[M]
C15	ECQG1H103J5	0.01U	1	FAJ[M]
C15	ECUV1H563KBN	0.056U	1	MAIN[M]
C16	ECCR1H221J5	220PF	1	MKB1[M]
C16	ECQG1H103J5	0.01U	1	FAJ[M]
C16	ECUV1H563KBN	0.056U	1	MAIN[M]
C17	ECA1CM222B	16V 2200P	1	FAJ[M]
C17	ECCR1H221J5	220PF	1	MKB1[M]
C17	ECUV1H563KBN	0.056U	1	MAIN[M]
C18	ECEA1HKA010	50V 1U	1	MAIN[M]
C18,19	ECQB1H224JF3	0.22U	2	FAJ[M]
C19	ECUV1H100DCN	10PF	1	MAIN(E)
C20	ECCR1H221J5	220PF	1	MKB2[M]
C20	ECUV1H101JG	100PF	1	MAIN(E)
C21	ECCR1H221J5	220PF	1	MKB2[M]
C21	ECFR1E104ZF5	25V 0.1U	1	FAJ[M]
C21	ECUV1H101JG	100PF	1	MAIN(E)
C22	ECA0JM471	6V 470PF	1	FAJ[M]
C22	ECCR1H221J5	220PF	1	MKB2[M]
C22	ECUV1H101JG	100PF	1	MAIN(E)
C23	ECCR1H221J5	220PF	1	MKB2[M]
C23	ECUV1H101JG	100PF	1	MAIN(E)
C23	QCBG1H104ZFA	25V 0.1U	1	FAJ(E)
C24	ECCR1H221J5	220PF	1	MKB2[M]
C24	ECQB1H103JF3	0.01U	1	FAJ[M]
C24	ECUV1H101JG	100PF	1	MAIN(E)
C25	ECCR1H221J5	220PF	1	MKB2[M]
C25	ECCR1H681J	680PF	1	FAJ(E)
C25	ECUV1H563KBN	0.056U	1	MAIN[M]
C26	ECCR1H221J5	220PF	1	MKB2[M]
C26	ECUV1H563KBN	0.056U	1	MAIN[M]
C27	ECCR1H221J5	220PF	1	MKB2[M]
C27	ECQB1H103JF3	0.01U	1	FAJ[M]
C27	ECUV1H563KBN	0.056U	1	MAIN[M]
C28	ECCR1H470J5	47PF	1	FAJ(E)
C28	ECUV1H563KBN	0.056U	1	MAIN[M]
C29	ECA1AM102B	10V 1000PF	1	FAJ[M]
C29	ECUV1H563KBN	0.056U	1	MAIN[M]
C30	ECA1AM102B	10V 1000PF	1	FAJ[M]
C30	ECUV1H563KBN	0.056U	1	MAIN[M]
C31	ECA1CM331	16V 330PF	1	FAJ[M]
C31	ECUV1H563KBN	0.056U	1	MAIN[M]
C32	ECFR1E104ZF5	25V 0.1U	1	FAJ[M]
C32	ECUV1H563KBN	0.056U	1	MAIN[M]
C33	ECQB1H102JF3	1000PF	1	FAJ(E)

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C33	ECUV1H104KBN	0.1U	1	MAIN[M]
C34	ECQB1H102JF3	1000PF	1	FAJ(E)
C34-36	ECUV1H563KBN	0.056U	3	MAIN[M]
C37	ECEA1HKA010	50V 1U	1	MAIN[M]
C39	ECUV1H563KBN	0.056U	1	MAIN[M]
C40	ECUV1H103KBN	0.01U	1	MAIN[M]
C46,47	ECEA1CKN010B	50V 1U	2	FAJ[M]
C48	ECFR1E104ZF5	25V 0.1U	1	FAJ[M]
C49	ECUV1H563KBN	0.056U	1	MAIN[M]
C50	ECEA0JKS470	6.3V 47U	1	MAIN[M]
C51	ECCR1H681J	680PF	1	FAJ(E)
C51,52	ECEA0JKA470	6.3V 47U	2	MAIN[M]
C52	ECFR1E104ZF5	25V 0.1U	1	FAJ[M]
C53	ECEA0JKS470	6.3V 47U	1	MAIN[M]
C57,58	ECUV1H100DCN	10PF	2	MAIN(E)
C63,64	ECQG1H222KZ	0.0022U	2	FAJ(E)
C68	ECA0JM102	6V 1000PF	1	FAJ[M]
CN1	RJS1A5207	CONNECTOR	1	MKB2[M]
CN2	RJS1A5212	CONNECTOR	1	CP[M]
CN4	RJS1A5210	CONNECTOR	1	FAJ[M]
CN5	RJS1A5212	CONNECTOR	1	FAJ[M]
CN6	RJS1A5210	CONNECTOR	1	MKB2[M]
CN7	RJS1A5208	CONNECTOR	1	CP[M][M]
CN9,10	RJS1A5208	CONNECTOR	2	MKB3[M]
CN11	RJS1A5210	CONNECTOR	1	MKB1[M]
CN12	RJS1A5209	CONNECTOR	1	MKB1[M]
CN17	RJT029W02V-1	EH CONNECTOR	1	FAJ[M]
D1	RVD1SS133TA	DIODE	1	MKB1[M]
D2	MA111TX	DIODE	1	MAIN[M]
D2	RVD1SS133TA	DIODE	1	MKB1[M]
D3	MA8024LTX	ZENER	1	MAIN[M]
D3	RVD1SS133TA	DIODE	1	MKB1[M]
D3	RVD1SS133TA	DIODE	1	FAJ[M]
D4	EK04W	DIODE	1	FAJ(E)
D4	MA111TX	DIODE	1	MAIN[M]
D4-D6	RVD1SS133TA	DIODE	3	MKB1[M]
D7	MA1039MTR	DIODE	1	MAIN[M]
D7	RVD1SS133TA	DIODE	1	MKB1[M]
D8	MA111TX	DIODE	1	MAIN[M]
D8	RVD1SS133TA	DIODE	1	MKB1[M]
D9	MA111TX	DIODE	1	MAIN[M]
D9	RVD1SS133TA	DIODE	1	MKB1[M]
D10	MA111TX	DIODE	1	MAIN[M]
D10	RVD1SS133TA	DIODE	1	MKB1[M]
D11	MA111TX	DIODE	1	MAIN[M]
D11	RVD1SS133TA	DIODE	1	MKB1[M]
D11	RVD1SS133TA	DIODE	1	FAJ[M]
D12	1D3E	DIODE	1	FAJ[M]
D12	MA111TX	DIODE	1	MAIN[M]
D12	RVD1SS133TA	DIODE	1	MKB1[M]
D13	1D3E	DIODE	1	FAJ[M]
D13	MA111TX	DIODE	1	MAIN[M]

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
D13	RVD1SS133TA	DIODE	1	MKB1[M]
D14	MA111TX	DIODE	1	MAIN[M]
D14	MA4036MTA	ZENER	1	FAJ[M]
D14	RVD1SS133TA	DIODE	1	MKB1[M]
D15	MA111TX	DIODE	1	MAIN[M]
D15	RVD1SS133TA	DIODE	1	MKB1[M]
D15	RVD1SS133TA	DIODE	1	FAJ[M]
D16	MA111TX	DIODE	1	MAIN[M]
D16	MA4051LTA	ZENER	1	FAJ[M]
D16	RVD1SS133TA	DIODE	1	MKB1(E)
D17	MA111TX	DIODE	1	MAIN[M]
D17	MA4051LTA	ZENER	1	FAJ[M]
D17-20	RVD1SS133TA	DIODE	4	MKB1[M]
D20	TL0H156PJ52A	DIODE	1	FAJ[M]
D21	RVD1SS133TA	DIODE	1	MKB1[M]
D21	TL0H156PJ52A	DIODE	1	FAJ[M]
D22	RVD1SS133TA	DIODE	1	MKB1[M]
D22	TL0H156PJ52A	DIODE	1	FAJ[M]
D23	RVD1SS133TA	DIODE	1	MKB1[M]
D23	SEL5255STP15	LED SANKEN	1	FAJ[M]
D24	RVD1SS133TA	DIODE	1	MKB1[M]
D24	SEL5255STP15	LED SANKEN	1	FAJ[M]
D25	RVD1SS133TA	DIODE	1	MKB1[M]
D25	SEL5255STP15	LED SANKEN	1	FAJ[M]
D26	RVD1SS133TA	DIODE	1	MKB1[M]
D26	SEL5255STP15	LED SANKEN	1	FAJ[M]
D27-48	RVD1SS133TA	DIODE	22	MKB1[M]
D49-96	RVD1SS133TA	DIODE	48	MKB2[M]
D97-22	RVD1SS133TA	DIODE	26	MKB3[M]
IC1	PC900V	PHOTO COUPLER	1	FAJ[M]
IC1	SED1278F	LCDC	1	MAIN[M]
IC1	TC74HC138P	CMOS IC	1	MKB1[M]
IC2	LA4227	POWER IC AMP	1	FAJ[M]
IC2	TC74HC138P	CMOS IC	1	MKB2[M]
IC2	TMP95CW65DF	CPU	1	MAIN[M]
IC3	M5256DF10VLL	256K SRAM	1	MAIN[M]
IC3	NJM4558L	OPAMP	1	FAJ[M]
IC4	TC200C060003	D99 LSI	1	MAIN[M]
IC10	QSIGX3C16009	MASK ROM	1	MAIN(E)
IC11	BU9480F-E2	D/A	1	MAIN[M]
IC13	QSIGX3C16011	MASK ROM	1	MAIN(E)
IP1	ICP-N38T104	ICP	1	⚠ FAJ(E)
JK1	QJJG017AA	PIN JACK	1	FAJ[M]
JK2,K3	QJJG020AA	JACK	2	FAJ[M]
JK5	QJJG019AA	JACK	1	FAJ[M]
JK6	QJJG016AA	JACK	1	⚠ FAJ[M]
JK12	QJJG018AA	JACK	1	FAJ[M]
JP1,P2	ECCR1H221J5	220PF	2	FAJ[M]
JP5	ERJ6GEY0R00V	RESISTOR	1	MAIN(E)

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
L1	BK2125LM152T	INDUCTOR	1	MAIN(E)
L1	QLQGT3T131LA	COIL	1	FAJ(E)
L2-L4	BK2125LM152T	INDUCTOR	3	MAIN(E)
L4	QLQGT3T131LA	COIL	1	FAJ(E)
L5	BK2125LM152T	INDUCTOR	1	MAIN(E)
L5	QLQGT3T131LA	COIL	1	FAJ(E)
L7	QLQGT3T131LA	COIL	1	FAJ(E)
L8	QLQGT2T100LA	LINE FILTER	1	FAJ(E)
L9	QLQGT1B101KA	COIL	1	FAJ(E)
L11	QLQGT3T131LA	COIL	1	FAJ(E)
PCB1	SXPG234511	MAIN P.C.B.	1	EXCEPT P, PY[M]
PCB1	SXPG234521	MAIN P.C.B.	1	P, PY ONLY[M]
PCB2	SXPG234611	FAJ/BLED/RLED P.C.B.	1	[M]
PCB3	SXPG234211	CP P.C.B.	1	[M]
PCB4	SXPG234311	MKB1/2 P.C.B.	1	[M]
PCB5	SXPG234411	MKB3 P.C.B.	1	[M]
Q1	2SB621A-R	TRANSISTOR	1	FAJ[M]
Q1	2SD601AQ	TRANSISTOR	1	MAIN[M]
Q2	2SB709A-R	TRANSISTOR	1	MAIN[M]
Q2	2SC1815TPE2	TRANSISTOR	1	FAJ(E)
Q3	2SA933STRS	TRANSISTOR	1	FAJ(E)
Q3	2SB709A-R	TRANSISTOR	1	MAIN[M]
Q4	2SA933STRS	TRANSISTOR	1	FAJ(E)
Q4,Q5	2SB709A-R	TRANSISTOR	2	MAIN[M]
Q5	2SC1815TPE2	TRANSISTOR	1	FAJ(E)
Q6	2SA933STRS	TRANSISTOR	1	FAJ(E)
Q6	2SB709A-R	TRANSISTOR	1	MAIN[M]
Q7	2SC1815TPE2	TRANSISTOR	1	FAJ(E)
Q7	2SD601AQ	TRANSISTOR	1	MAIN[M]
R1	ERJ6GEYJ104V	1/10W 100K	1	MAIN(E)
R2	ERDS2TJ103	1/4W 10K	1	FAJ[M]
R2	ERJ6GEYJ104V	1/10W 100K	1	MAIN(E)
R3	ERDS2TJ471	1/4W 470	1	FAJ[M]
R3	ERJ6GEYJ221V	1/10W 220	1	MAIN(E)
R4	ERDS2TJ101	1/4W 100	1	FAJ[M]
R4	ERJ6GEYJ472V	1/10W 4.7K	1	MAIN(E)
R5	ERDS2TJ473	1/4W 47K	1	FAJ[M]
R5	ERJ6GEYJ472V	1/10W 4.7K	1	MAIN(E)
R6	ERDS2TJ102	1/4W 1K	1	FAJ[M]
R6	ERJ6GEYJ472V	1/10W 4.7K	1	MAIN(E)
R7	ERDS2TJ330	1/4W 33	1	FAJ[M]
R7	ERJ6GEYJ472V	1/10W 4.7K	1	MAIN(E)
R8	ERDS2TJ104	1/4W 100K	1	FAJ[M]
R8	ERJ6GEYJ472V	1/10W 4.7K	1	MAIN(E)
R9	ERDS2TJ330	1/4W 33	1	FAJ[M]
R9	ERJ6GEYJ103V	1/10W 10K	1	MAIN(E)
R10	ERDS2TJ221	1/4W 220	1	FAJ[M]
R10	ERJ6GEYJ103V	1/10W 10K	1	MAIN(E)
R11	ERDS2TJ680	1/4W 68	1	FAJ[M]
R11	ERJ6GEYJ332V	1/10W 3.3K	1	MAIN(E)
R12	ERDS2TJ680	1/4W 68	1	FAJ[M]

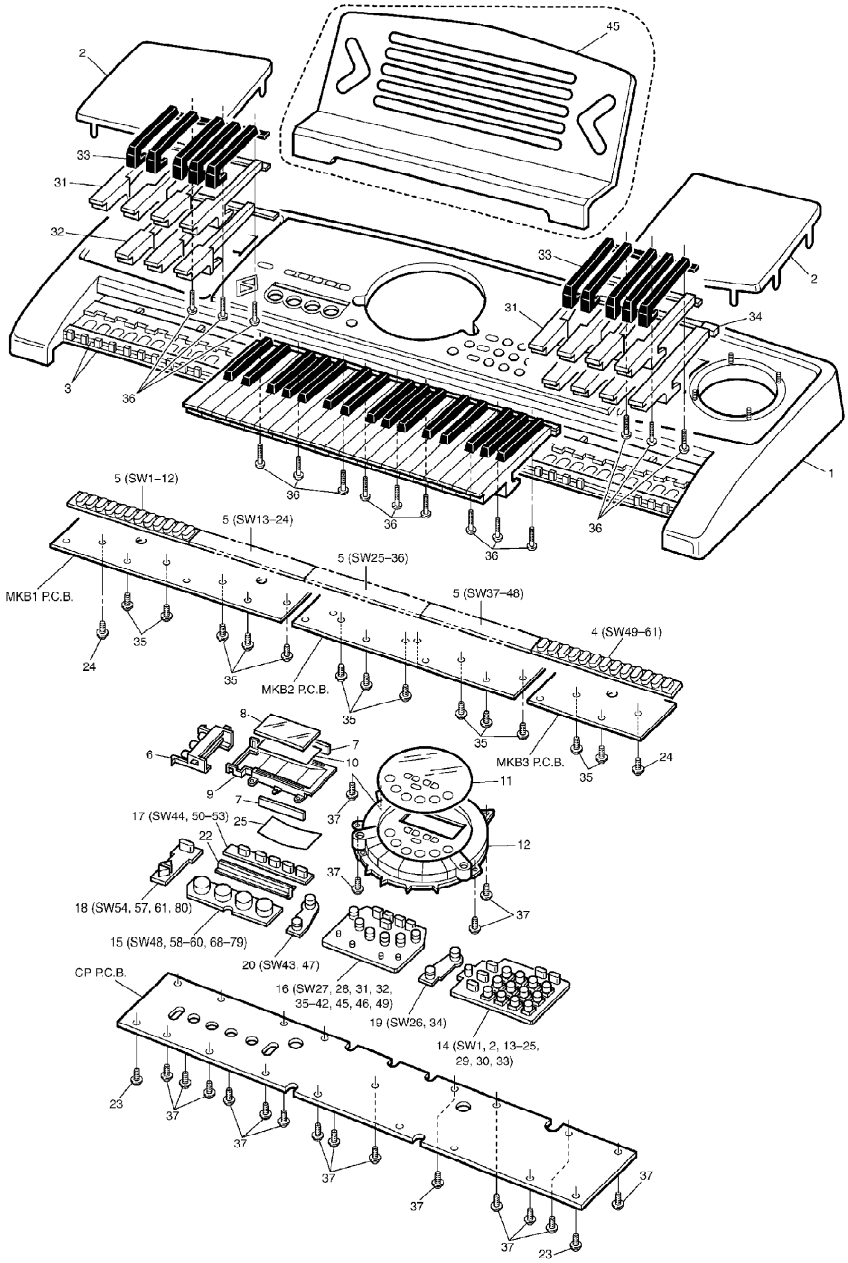
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R12	ERJ6GEYJ103V	1/10W 10K	1	MAIN(E)
R13	ERDS2TJ680	1/4W 68	1	FAJ[M]
R13	ERJ6GEY472V	1/10W 4.7K	1	MAIN(E)
R14	ERDS2TJ102	1/4W 1K	1	FAJ[M]
R14	ERJ6GEYJ101V	1/10W 100	1	MAIN(E)
R15	ERDS2TJ471	1/4W 470	1	FAJ[M]
R15	ERJ6GEYJ101V	1/10W 100	1	MAIN(E)
R16	ERDS2TJ471	1/4W 470	1	FAJ[M]
R16	ERJ6GEYJ102V	1/10W 1K	1	MAIN(E)
R17	ERDS2TJ472	1/4W 4.7K	1	FAJ[M]
R17	ERJ6GEYJ472V	1/10W 4.7K	1	MAIN(E)
R18	ERDS2TJ152	1/4W 1.5K	1	FAJ[M]
R18	ERJ6GEYJ221V	1/10W 220	1	MAIN(E)
R19	ERDS2TJ472	1/4W 4.7K	1	FAJ[M]
R19	ERJ6GEYJ221V	1/10W 220	1	MAIN(E)
R20	ERDS2TJ683	1/4W 68K	1	FAJ[M]
R20	ERJ6GEYJ472V	1/10W 4.7K	1	MAIN(E)
R21	ERG1SJ680	1/2W 68	1	⚠ FAJ[M]
R21	ERJ6GEYJ103V	1/10W 10K	1	MAIN(E)
R22	ERDS2TJ333	1/4W 33K	1	FAJ[M]
R22	ERJ6GEY0R00V	CHIP JUMPER	1	MAIN(P, PY ONLY)
R23	ERDS2TJ102	1/4W 1K	1	FAJ[M]
R23	ERJ6GEYJ682V	1/10W 6.8K	1	MAIN(E)
R24	ERDS2TJ683	1/4W 68K	1	FAJ[M]
R24	ERJ6GEYJ221V	1/10W 220	1	MAIN(E)
R25	ERDS2TJ683	1/4W 68K	1	FAJ[M]
R25	ERJ6GEYJ101V	1/10W 100	1	MAIN(E)
R26,27	ERDS2TJ333	1/4W 33K	2	FAJ[M]
R28	ERDS2TJ561T	1/4W 560	1	FAJ(E)
R28	ERJ6GEYJ105V	1/10W 1M	1	MAIN(E)
R29	ERDS2TJ561T	1/4W 560	1	FAJ(E)
R29	ERJ6GEYJ101V	1/10W 100	1	MAIN(E)
R30	ERDS2TJ472	1/4W 4.7K	1	FAJ[M]
R30	ERJ6GEY0R00V	CHIP JUMPER	1	MAIN[M]
R31	ERDS2TJ472	1/4W 4.7K	1	FAJ[M]
R31	ERJ6GEYJ101V	1/10W 100	1	MAIN[M]
R32	ERG1SJ680	1/2W 68	1	⚠ FAJ[M]
R33	ERDS2TJ151	1/4W 150	1	FAJ[M]
R34,35	ERDS2TJ472	1/4W 4.7K	2	FAJ[M]
R36	ERDS2TJ101	1/4W 100	1	FAJ[M]
R37,38	ERDS2TJ332	1/4W 3.3K	2	FAJ[M]
R39,40	ERDS2TJ682	1/4W 6.8K	2	FAJ[M]
R41	ERDS2TJ683	1/4W 68K	1	FAJ[M]
R42	ERDS2TJ333	1/4W 33K	1	FAJ[M]
R43	ERD25FVJ470	1/4W 47	1	⚠ FAJ[M]
R44	ERD25FVJ2R2	1/4W 2.2	1	⚠ FAJ[M]
R45	ERD2FCVJ4R7	1/4W 4.7	1	⚠ FAJ[M]
R46	ERDS2TJ103	1/4W 10K	1	FAJ[M]
R47	ERDS2TJ472	1/4W 4.7K	1	FAJ[M]
R48	ERDS2TJ222	1/4W 2.2K	1	FAJ[M]
R49	ERJ6GEYJ221V	1/10W 220	1	MAIN(E)
R50	ERJ6GEYJ105V	1/10W 1M	1	MAIN(E)
R51	ERJ6GEYJ470V	1/10W 47	1	MAIN(E)

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R52	ERJ6GEYJ332V	1/10W 3.3K	1	MAIN(E)
R53,54	ERJ6GEYJ822V	1/10W 8.2K	2	MAIN(E)
R55	ERJ6GEYJ332V	1/10W 3.3K	1	MAIN(E)
R56,57	ERJ6GEYJ822V	1/10W 8.2K	2	MAIN(E)
R58	ERJ6GEYJ332V	1/10W 3.3K	1	MAIN(E)
R59,60	ERJ6GEYJ822V	1/10W 8.2K	2	MAIN(E)
R61	ERJ6GEYJ332V	1/10W 3.3K	1	MAIN(E)
R62,63	ERJ6GEYJ822V	1/10W 8.2K	2	MAIN(E)
R64	ERJ6GEYJ103V	1/10W 10K	1	MAIN(E)
R65,66	ERJ6GEYJ101V	1/10W 100	2	MAIN(E)
R67	ERJ6GEYJ103V	1/10W 10K	1	MAIN(E)
R68	ERJ6GEYJ101V	1/10W 100	1	MAIN(E)
R69	ERJ6GEYJ103V	1/10W 10K	1	MAIN(E)
R70	ERJ6GEYJ101V	1/10W 100	1	MAIN(E)
R71	ERD25FVJ2R2	1/4W 2.2	1	⚠ FAJ 1/4W [M]
R71	ERJ6GEYJ103V	1/10W 10K	1	MAIN(E)
R74	ERJ6GEYJ101V	1/10W 100	1	MAIN(E)
R75-80	ERJ6GEYJ221V	1/10W 220	6	MAIN(E)
R81,82	ERJ6GEYJ102V	1/10W 1K	2	MAIN(E)
SW1-12	-	SWITCH	12	MKB1*1
SW13-24	-	SWITCH	12	MKB1*1
SW25-36	-	SWITCH	12	MKB2*1
SW37-48	-	SWITCH	12	MKB2*1
SW49-61	-	SWITCH	13	MKB3*1
SW1,2	-	SWITCH	2	CP*1
SW13-54	-	SWITCH	42	CP*1
SW57-61	-	SWITCH	5	CP*1
SW68-79	-	SWITCH	12	CP*1
X1	QSXG2F1400A	CERAMIC OCS (14MHZ)	1	MAIN(E)
X3	QSXG2F3200CA	CERAMIC OCS (32MHZ)	1	MAIN(E)
Z1-Z4	EXBS8V221J	220 Ω×4	4	MAIN(E)
Z5	EXBS8V471J	470 Ω×4	1	MAIN(E)
Z7-15	EXBS8V102J	1K Ω×4	9	MAIN(E)
Z16	EXBS8V221J	220 Ω×4	1	MAIN(E)
Z17	EXBS8V104J	100K Ω×4	1	MAIN[M]
Z18	EXBS8V221J	220 Ω×4	1	MAIN(E)
Z19	EXBS8V101J	100 Ω×4	1	MAIN(E)
Z20	EXBS8V151J	150 Ω×4	1	MAIN(E)
Z21,22	EXBS8V471J	470 Ω×4	2	MAIN(E)
Z23,24	EXBS8V472J	4.7K Ω×4	2	MAIN(E)
Z25	EXBS8V470J	47 Ω×4	1	MAIN(E)
Z26,27	EXBS8V221J	220 Ω×4	2	MAIN(E)
Z32	EXBS8V471J	470 Ω×4	1	MAIN(E)
Z36,37	EXBS8V221J	220 Ω×4	2	MAIN(E)
Z38	EXBS8V471J	470 Ω×4	1	MAIN(E)
Z39,40	EXBS8V103J	10K Ω×4	2	MAIN(E)
Z41,42	EXBS8V221J	220 Ω×4	2	MAIN(E)

Notes:

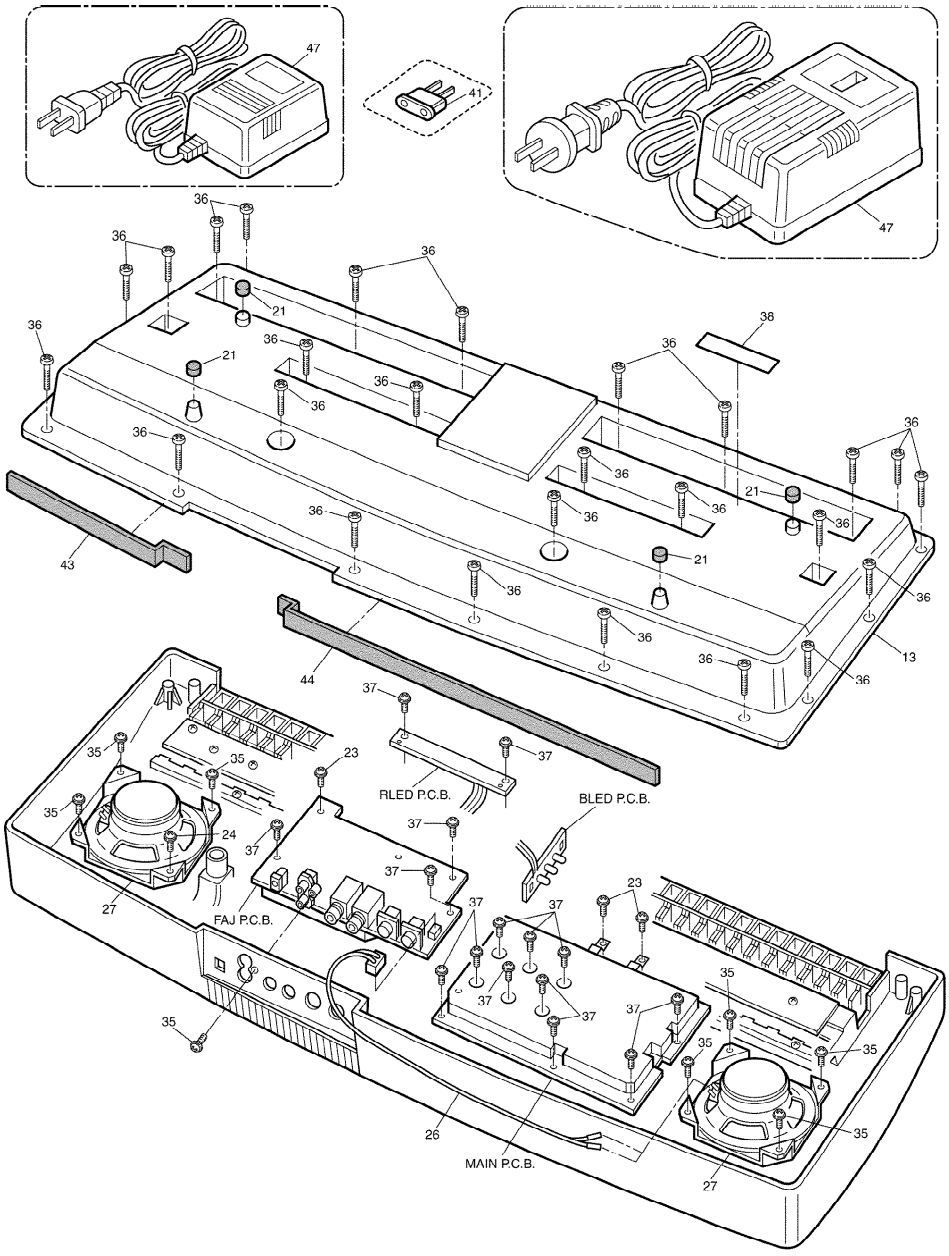
***1: Since SW consists of buttons and P.C.B.s, we do not supply it as an individual part (refer to " CABINET PARTS LOCATION " on).**

16. CABINET PARTS LOCATION

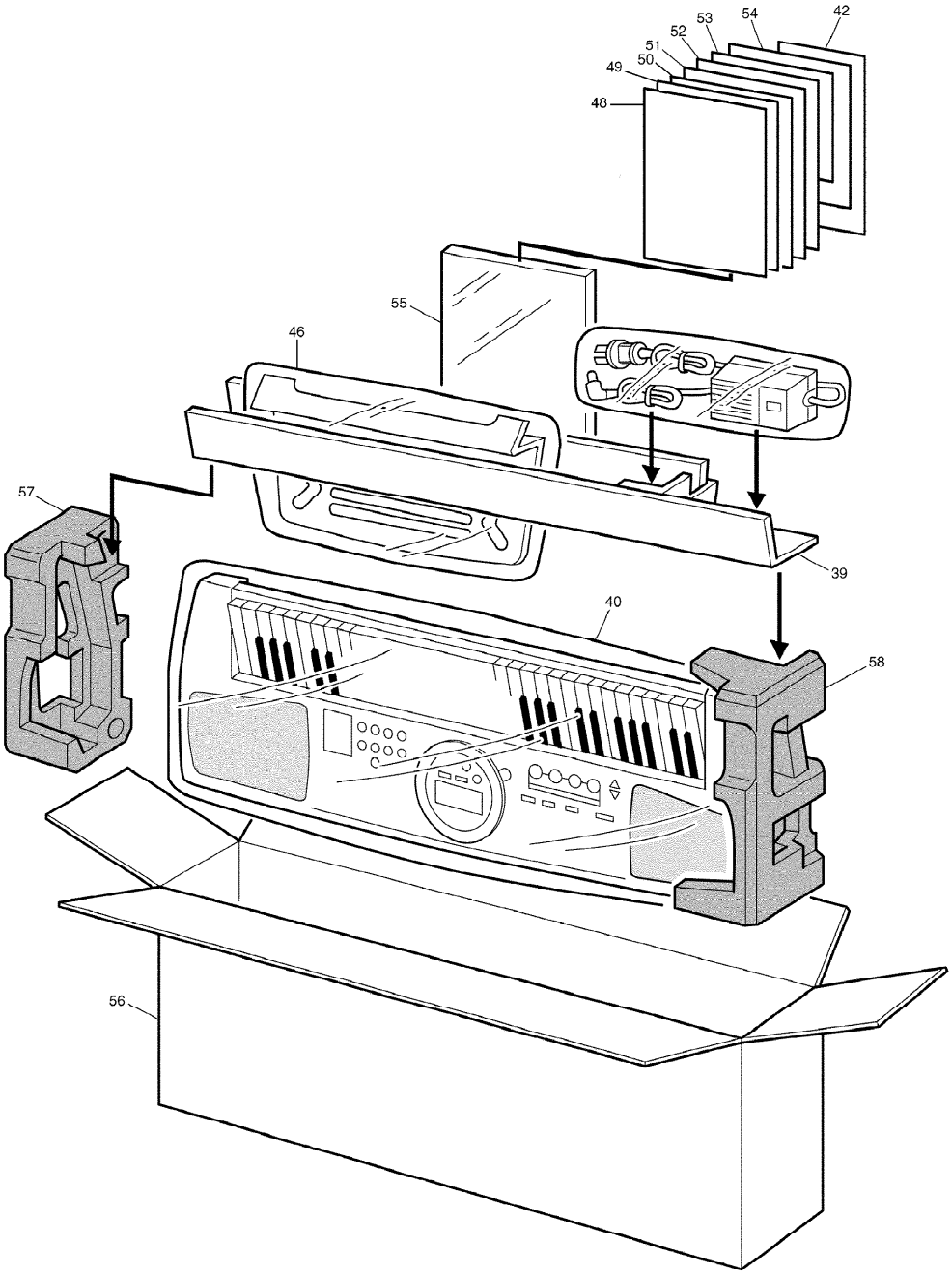


- Since SW consists of buttons and P.C.B.s, we do not supply it as an individual part.

- We do not supply those items of parts marked *



17. PACKAGING

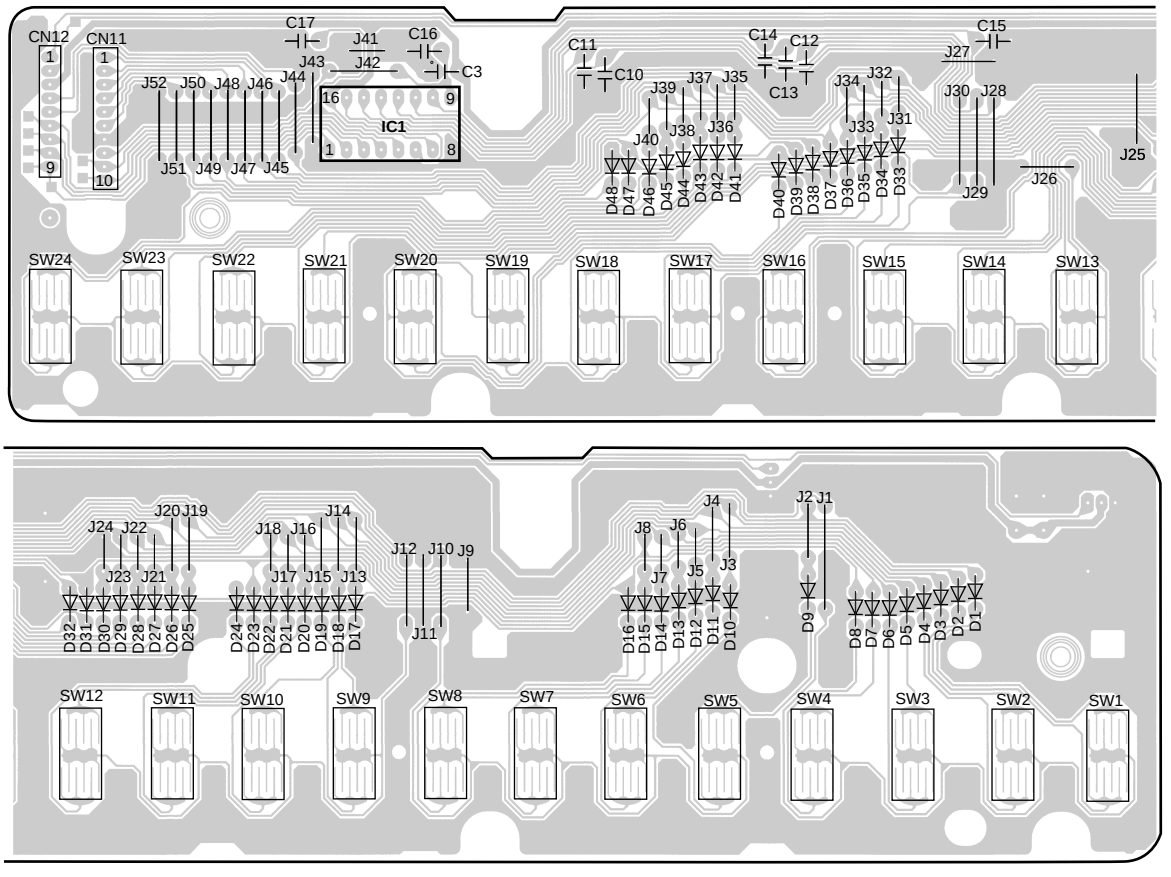


18. MEMO 1

19. MEMO 2

Printed in Japan / S000304000 HM/AM

C MKB1 P.C.B.

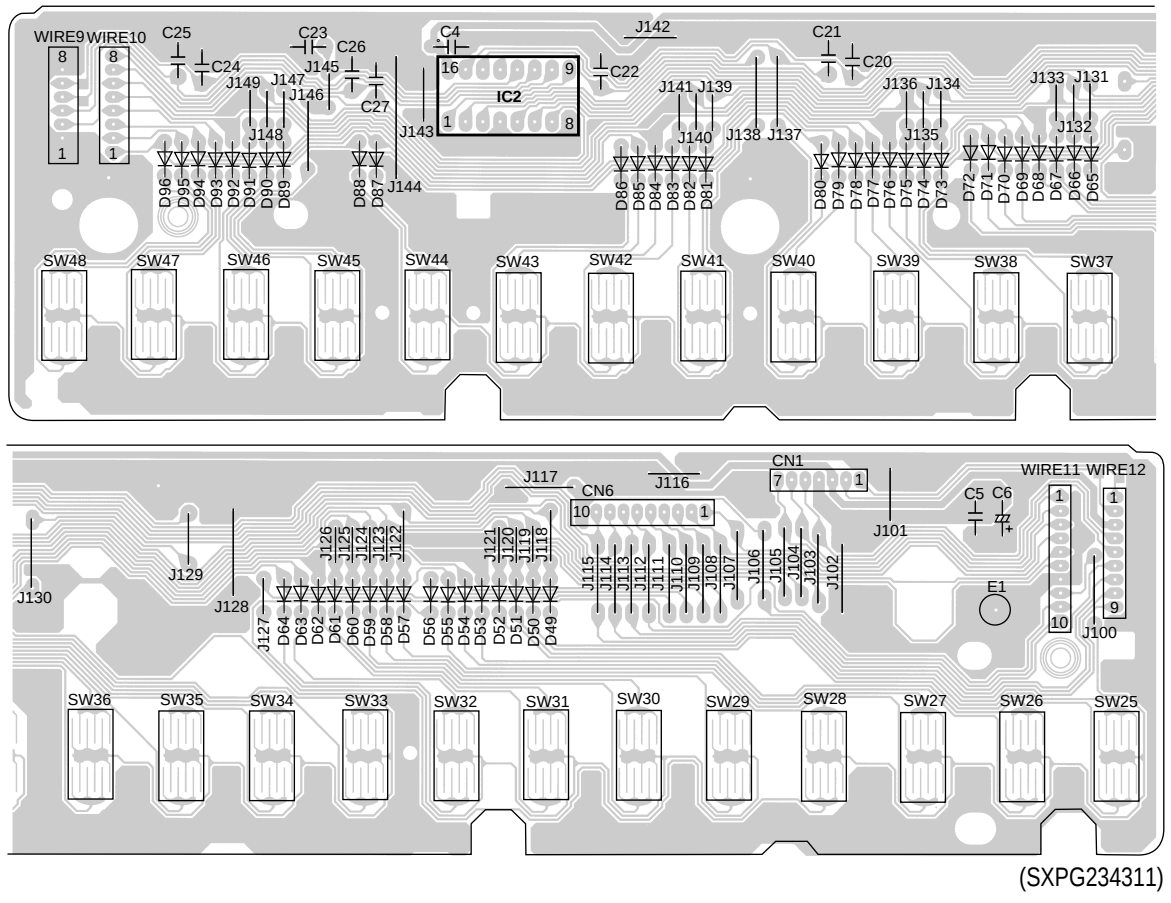


(SXPG234311)

ELECTRICAL PARTS LOCATION

Ref.No.	Lo.No.	Ref.No.	Lo.No.	Ref.No.	Lo.No.	Ref.No.	Lo.No.	Ref.No.	Lo.No.
C MKB1 P.C.B.									
IC1	C-2	D17	B-4	D34	E-2	C3	C-1	SW9	B-4
D1	E-4	D18	B-4	D35	E-2	C10	C-1	SW10	B-4
D2	E-4	D19	B-4	D36	E-2	C11	C-1	SW11	B-4
D3	E-4	D20	B-4	D37	D-2	C12	D-1	SW12	A-4
D4	E-4	D21	B-4	D38	D-2	C13	D-1	SW13	F-2
D5	E-4	D22	B-4	D39	D-2	C14	D-1	SW14	E-2
D6	E-4	D23	B-4	D40	D-2	C15	E-1	SW15	E-2
D7	E-4	D24	B-4	D41	D-2	C16	C-1	SW16	D-2
D8	E-4	D25	B-4	D42	D-2	C17	B-1	SW17	D-2
D9	D-4	D26	B-4	D43	D-2	SW1	F-4	SW18	C-2
D10	D-4	D27	A-4	D44	D-2	SW2	E-4	SW19	C-2
D11	D-4	D28	A-4	D45	D-2	SW3	E-4	SW20	C-2
D12	D-4	D29	A-4	D46	D-2	SW4	D-4	SW21	B-2
D13	D-4	D30	A-4	D47	D-2	SW5	D-4	SW22	B-2
D14	D-4	D31	A-4	D48	D-2	SW6	D-4	SW23	A-2
D15	D-4	D32	A-4	CN11	A-1	SW7	C-4	SW24	A-2
D16	D-4	D33	E-2	CN12	A-1	SW8	C-4		

D MKB2 P.C.B.

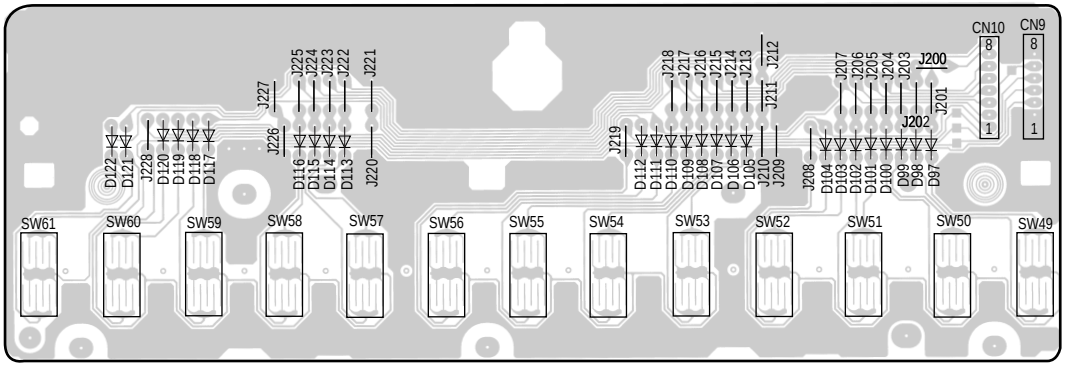


(SXPG234311)

ELECTRICAL PARTS LOCATION

Ref.No.	Lo.No.	Ref.No.	Lo.No.	Ref.No.	Lo.No.	Ref.No.	Lo.No.	Ref.No.	Lo.No.
D MKB2 P.C.B.									
IC2	C-2	D66	E-2	D84	D-2	WIRE12	F-3	SW31	C-4
D49	C-4	D67	E-2	D85	D-2	C4	C-1	SW32	C-4
D50	C-4	D68	E-2	D86	D-2	C5	E-3	SW33	B-4
D51	C-4	D69	E-2	D87	B-2	C6	E-3	SW34	B-4
D52	C-4	D70	E-2	D88	B-2	C20	E-1	SW35	B-4
D53	C-4	D71	E-2	D89	B-2	C21	D-1	SW36	A-4
D54	C-4	D72	E-2	D90	B-2	C22	C-1	SW37	F-2
D55	C-4	D73	E-2	D91	B-2	C23	B-1	SW38	E-2
D56	C-4	D74	E-2	D92	B-2	C24	B-1	SW39	E-2
D57	C-4	D75	E-2	D93	B-2	C25	B-1	SW40	D-2
D58	B-4	D76	E-2	D94	B-2	C26	B-1	SW41	D-2
D59	B-4	D77	E-2	D95	B-2	C27	B-1	SW42	C-2
D60	B-4	D78	E-2	D96	A-2	SW25	F-4	SW43	C-2
D61	B-4	D79	D-2	CN1	D-3	SW26	E-4	SW44	C-2
D62	B-4	D80	D-2	CN6	C-3	SW27	E-4	SW45	B-2
D63	B-4	D81	D-2	WIRE9	A-1	SW28	D-4	SW46	B-2
D64	B-4	D82	D-2	WIRE10	A-1	SW29	D-4	SW47	A-2
D65	F-2	D83	D-2	WIRE11	E-3	SW30	D-4	SW48	A-2

E MKB3 P.C.B.



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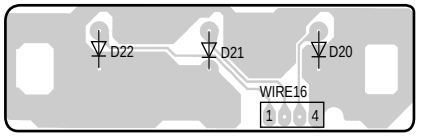

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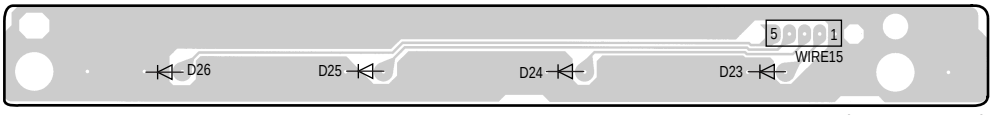


(SXPG234611)

ELECTRICAL PARTS LOCATION

Ref.No.	Lo.No.	Ref.No.	Lo.No.	Ref.No.	Lo.No.	Ref.No.	Lo.No.	Ref.No.	Lo.No.
E MKB3 P.C.B.									
D97	E-2	D106	D-2	D115	B-2	CN10	E-1	SW57	C-2
D98	E-2	D107	D-2	D116	B-2	SW49	F-2	SW58	B-2
D99	E-2	D108	D-2	D117	B-2	SW50	E-2	SW59	B-2
D100	E-2	D109	D-2	D118	B-2	SW51	E-2	SW60	B-2
D101	E-2	D110	D-2	D119	B-2	SW52	D-2	SW61	A-2
D102	E-2	D111	D-2	D120	B-2	SW53	D-2		
D103	E-2	D112	D-2	D121	B-2	SW54	D-2		
D104	E-2	D113	C-2	D122	B-2	SW55	C-2		
D105	D-2	D114	B-2	CN9	F-1	SW56	C-2		

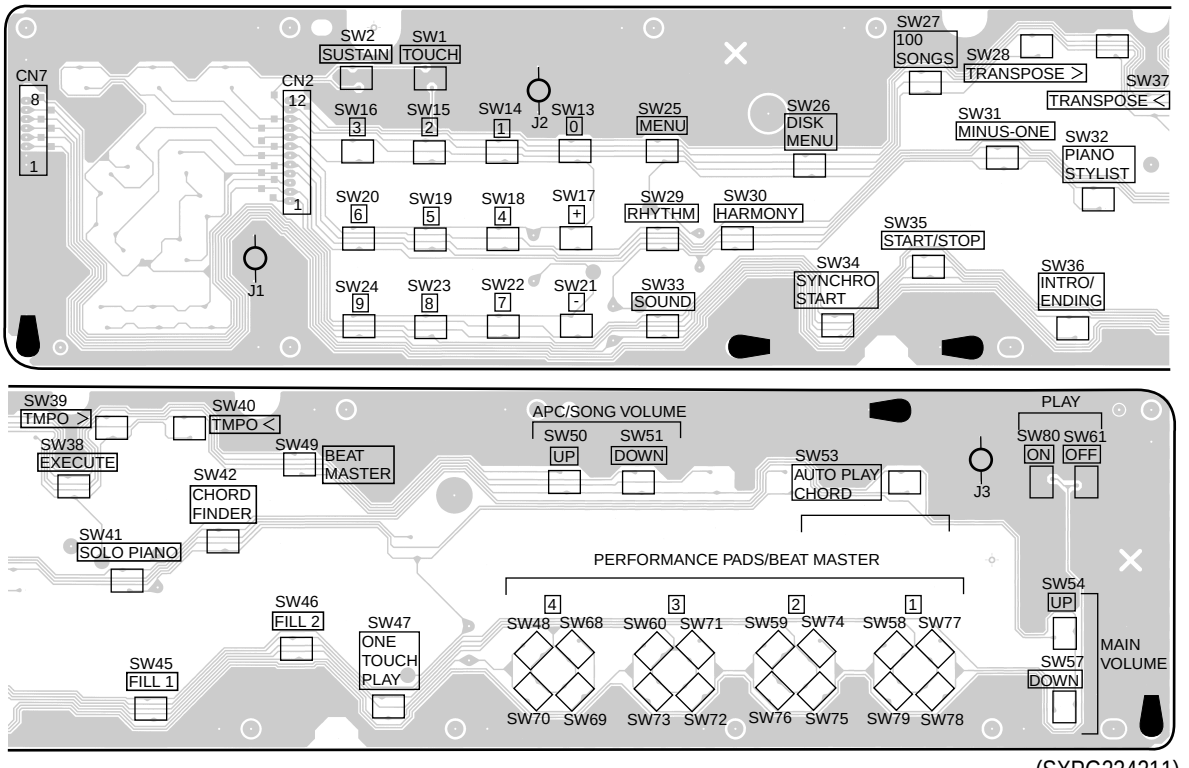
ELECTRICAL PARTS LOCATION

Ref.No.	Lo.No.	Ref.No.	Lo.No.	Ref.No.	Lo.No.	Ref.No.	Lo.No.
F BLED P.C.B.							
D20	B-4	D21	B-4	D22	A-4	WIRE16	B-4

ELECTRICAL PARTS LOCATION

Ref.No.	Lo.No.	Ref.No.	Lo.No.	Ref.No.	Lo.No.	Ref.No.	Lo.No.	Ref.No.	Lo.No.
G RLED P.C.B.									
D23	D-5	D24	C-5	D25	C-5	D26	B-5	WIRE15	E-5

H CP P.C.B.



(SXPG234211)

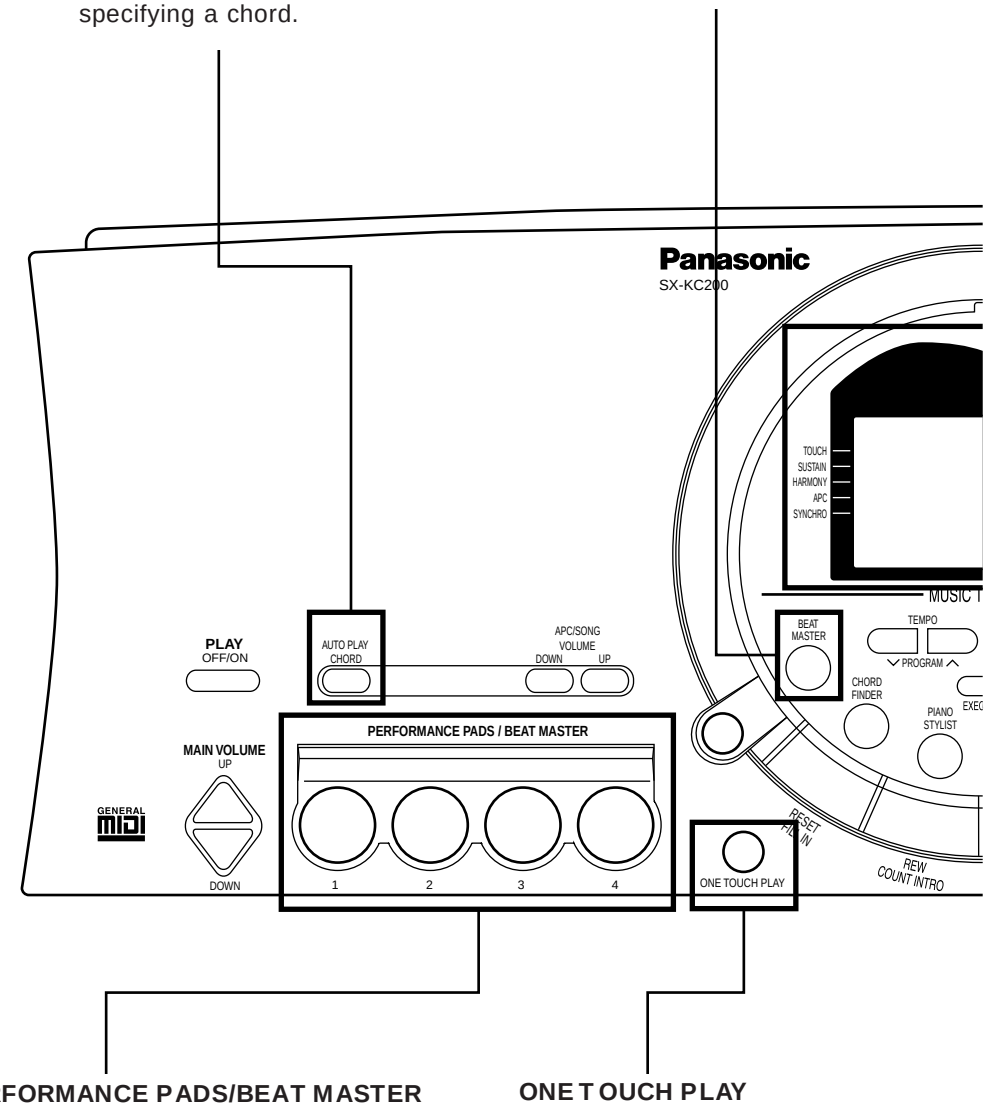
ELECTRICAL PARTS LOCATION

Ref.No.	Lo.No.	Ref.No.	Lo.No.	Ref.No.	Lo.No.	Ref.No.	Lo.No.	Ref.No.	Lo.No.
H CP P.C.B.									
CN2	B-2	SW22	C-2	SW35	E-2	SW51	D-3	SW73	D-4
CN7	A-2	SW23	C-2	SW36	E-2	SW53	E-3	SW74	D-4
SW1	C-1	SW24	B-2	SW38	A-3	SW54	E-4	SW75	D-4
SW2	B-1	SW25	D-2	SW39	A-3	SW57	E-4	SW76	D-4
SW13	C-2	SW26	D-2	SW40	B-3	SW58	E-4	SW77	E-4
SW14	C-2	SW27	E-1	SW41	A-4	SW59	D-4	SW78	E-4
SW15	C-2	SW28	E-1	SW42	B-3	SW60	D-4	SW79	E-4
SW16	B-2	SW29	D-2	SW45	A-4	SW61	F-3	SW80	E-3
SW17	C-2	SW30	D-2	SW46	B-4	SW68	C-4		
SW18	C-2	SW31	E-2	SW47	B-4	SW69	C-4		
SW19	C-2	SW32	F-2	SW48	C-4	SW70	C-4		
SW20	B-2	SW33	D-2	SW49	B-3	SW71	D-4		
SW21	C-2	SW34	FD-2	SW50	C-3	SW72	D-4		

Controls and functions

AUTO PLAY CHORD
An automatically accompaniment is added to your playing merely by specifying a chord.

BEAT MASTER
A fun way to develop your sense of rhythm.



PERFORMANCE PADS/BEAT MASTER
Just press a pad button to add a phrase to your playing. You can also tap the pad buttons in time with the beat.

ONE TOUCH PLAY
An appropriate combination of sounds, etc. for your selected rhythm are automatically set up for the automatic accompaniment.

MUSIC TRAINER

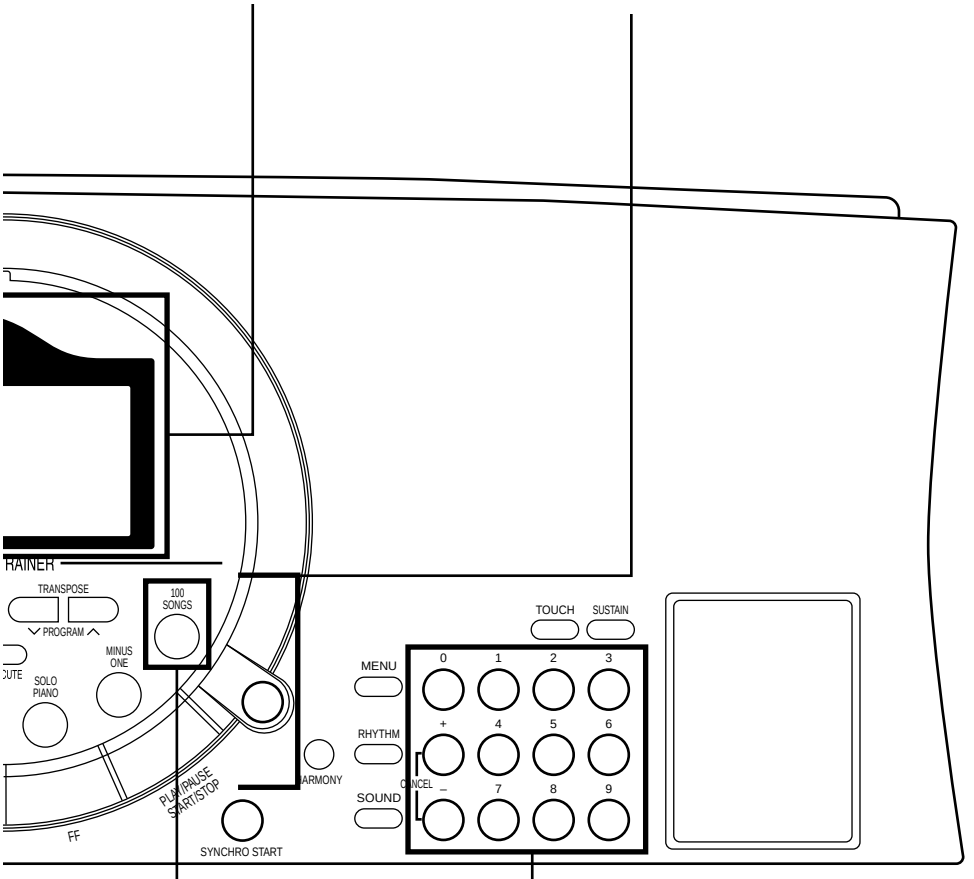
The **MUSIC TRAINER** function incorporated in this instrument can be a helpful aid to improving your performance.

Example

- **BEAT MASTER**, to develop your sense of rhythm.
- **CHORD FINDER**, to teach you how to play chords.
- **MINUS ONE** lets you practice the melody part while listening to the other song parts.
- The display shows a visual illustration of the keys and notes you play.

Display

Displays the status of your instrument and is also used for setting the various functions.



100 SONGS

Play back the internal song data.

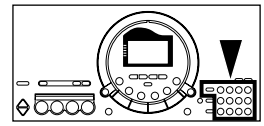
Number buttons

Specify the desired sounds and rhythms etc. by number.

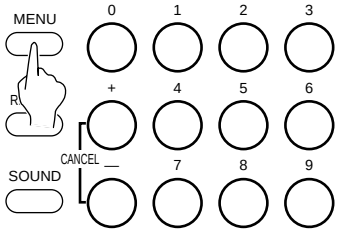
Part III Menu

Various settings that enhance the functions of this instrument are accessed through the **MENU** function.

Outline of the procedure



1. Press the **MENU** button.



2. Use the number buttons to enter the menu number of the setting you wish to display (two digits).
- The **+** and **–** buttons and the **TRANSPOSE/ PROGRAM** buttons can also be used to select the menu number.

■ MENU list:
[ ] indicates the name shown on the display.

01 to **04**: **PADS BANK SELECT** [PAD BANK 1-4]
Select a BANK for the **PERFORMANCE PADS**.

05: PART VOLUME [PT VOL]
Volume settings for each part.

06: PART SOUND [PT SOUND]
Sound settings for each part.

07: PART PANPOT [PT PAN]
Stereo setting for each part.

08: PART MIDI CHANNEL [PT MIDI]
MIDI channel settings for each part

09: PART LOCAL SETTING [PT LOCAL]
MIDI LOCAL CONTROL settings for each part.

10: MIDI CLOCK [MIDI CLK]
MIDI CLOCK mode settings.

11: MIDI REALTIME COMMAND [MIDI RTC]
Setting to enable or disable the transmission/reception of MIDI REALTIME COMMAND data.

12: MASTER TUNING [TUNING]
Fine adjustment of the tuning for the whole instrument.

13: FOOT SWITCH ASSIGN [FOOT SW]
Assign a function to the Foot Switch (sold separately).

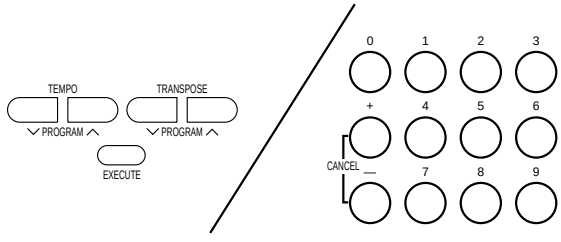
14: LCD CONTRAST [CONTRAST]
Adjust the readability of the display.

15: SONG LED [SONG LED]
ON/OFF settings for the LED lighting of the pad buttons during a SONG performance.

16: **ALL INITIAL** [ALL INIT]
Reset this instrument to the original settings.

3. Press the **EXECUTE** button.
- The display changes to the setting display for the selected **MENU**.

4. Use the **TEMPO/PROGRAM** buttons, the **TRANSPOSE/PROGRAM** buttons, or the **EXECUTE** button to adjust the settings in the selected menu.

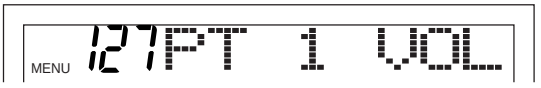


5. When you have finished making the settings, press the **MENU** button again.
- If you execute a setting, there is also a menu to exit the setting mode.

Setting menus

Select the desired setting menu, and perform the corresponding settings.

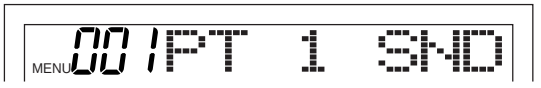
PART VOLUME



1. Use the **TRANSPOSE/PROGRAM** buttons to select the part you wish to set.
- PT is the abbreviation for part and ACP for ACCOMP.

2. Use the **TEMPO/PROGRAM** buttons to adjust the volume (0 to 127).
- Repeat these steps for each part as necessary.

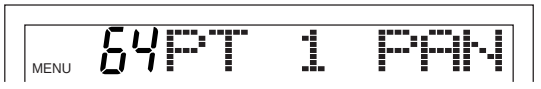
PART SOUND



1. Use the **TRANSPOSE/PROGRAM** buttons to select the part you wish to set.

2. Use the **TEMPO/PROGRAM** buttons or the number buttons to select a sound for the part.

PART PANPOT



1. Use the **TRANSPOSE/PROGRAM** buttons to select the part you wish to set.

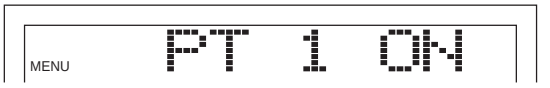
2. Use the **TEMPO/PROGRAM** buttons to adjust the stereo midpoint (0 to 127).
- At 0 the center is all the way to the left, at 64 the center is midway between right and left, and at 127 the center is all the way to the right.

PART MIDI CHANNEL

1. Use the **TRANSPOSE/PROGRAM** buttons to select the part you wish to set.

2. Use the **TEMPO/PROGRAM** buttons to set the channel (OFF, 01 to 16).

PART LOCAL SETTING



1. Use the **TEMPO/PROGRAM** buttons to select the part you wish to set.

2. Use the **TRANSPOSE/PROGRAM** buttons to set the LOCAL CONTROL setting (ON or OFF).
- When set to OFF, the performance for the part is transmitted as MIDI data but does not sound from this instrument.

MIDI CLOCK

Use the **TRANSPOSE/PROGRAM** buttons to select the MIDI CLOCK mode.

INT: This instrument's internal clock is used to control the connected MIDI equipment.

EXT: The clock of the connected MIDI equipment is used to control this instrument. (The tempo is displayed as "♩= --- ".)
- For information about MIDI connections, refer to page 31.
- The setting is always set to INT when the power to this instrument is turned on.

MIDI REALTIME COMMAND

Use the **TRANSPOSE/PROGRAM** buttons to enable or disable the transmission/reception of MIDI REALTIME COMMAND data.

ON: REALTIME COMMAND (START/STOP, CONTINUE) data are transmitted/received.

OFF: REALTIME COMMAND data are not transmitted/received.

MASTER TUNING

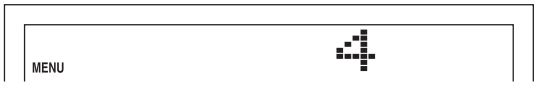
Use the **TRANSPOSE/PROGRAM** buttons to adjust the tuning value (-38 - Center - +39).

FOOT SWITCH ASSIGN

Use the **TRANSPOSE/PROGRAM** buttons to select a function to assign to the Foot Switch (separately sold option).

- Select from SUSTAIN, START/STOP [ST/STOP] and GLIDE.
- In cases where the switch polarity is reversed, select a function name that is preceded by a " - " indication.
- Pressing the Foot Switch will turn the assigned function on.
- GLIDE "bends" the pitch down by about one semitone.

LCD CONTRAST



Use the **TRANSPOSE/PROGRAM** buttons to adjust the readability of the display (1 to 10).

SONG LED

Use the **TRANSPOSE/PROGRAM** buttons to specify whether or not the pad button LEDs light during a **100 SONGS** performance.

ON: The pad button LEDs light also during a **100 SONGS** performance.

OFF: The pad button LEDs do not light during the **100 SONGS** performance.

ALL INITIAL

Press the **EXECUTE** button.

- "COMPLETE" appears on the display, and all the settings of the instrument (except for **MAIN VOLUME**) are reset to the factory-preset status.
- You can also reset the instrument with the following procedure: While pressing the **TEMPO** ∧ and ∨ at the same time, turn on the power to the instrument. With this method, the **MAIN VOLUME** setting is also initialized.

■ **Memory function**

The various settings and memory contents of this instrument are maintained as long as the AC adaptor is connected to this instrument and plugged into an outlet.

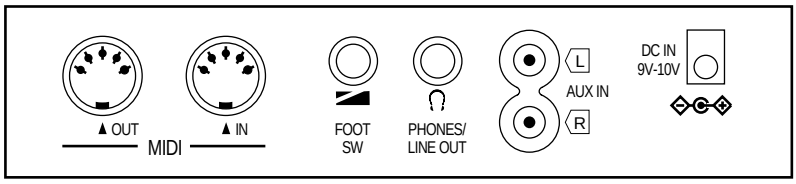
Symptoms which appear to be signs of trouble

The following changes in performance may occur in the Keyboard but do not indicate trouble.

	Phenomenon	Remedy
Sounds and effects	The buttons, keys, etc. malfunction.	• Turn off the **PLAY** button once, then turn it on again. If this procedure is not successful, turn off the **PLAY** button once. Then, while pressing the **TEMPO** ∧ and ∨ buttons at the same time, turn the **PLAY** button on again. (Note that, in this case, all programmable settings, functions and memories return to their factory-preset status.)
	No sound is produced when the keys are pressed.	• The **MAIN VOLUME** is at the minimum setting. Adjust the volume with the **MAIN VOLUME** control. • The volumes for the selected parts are set to the minimum levels. Set the volumes of the relevant parts to appropriate levels. • The LOCAL CONTROL for a part performed on the keyboard is set to OFF. Set the LOCAL CONTROL to ON.
	Only percussive instrument sounds are produced when the keyboard is played.	• A **DRUM KITS** sound is selected.
Rhythm	The rhythm does not start.	• The **DRUMS** volume is set to the minimum level. Set the **DRUMS** volume to an appropriate level. • The 091 CLASSIC BALLAD rhythm is selected. This rhythm does not sound unless the **AUTO PLAY CHORD** is used. • MIDI CLOCK is set to EXT. Set CLOCK to INT.
AUTO PLAY CHORD	No sound is produced for the automatic accompaniment.	• The **APC/SONG VOLUME** is set to the minimum setting. Set it to a suitable level.
Other	Noise from a radio or TV can be heard.	• This sometimes occurs when electrical equipment such as a radio or TV is used near the instrument. Try moving such electrical equipment further away from the instrument. • The sound may be coming from a nearby broadcast station or amateur radio station. If the sound is bothersome, consult your dealer or service center.
	The cabinet becomes warm during use.	• This instrument has a power source that heats the cabinet to some degree. This is not an indication of trouble.

Connections

Rear panel



MIDI OUT
Used for transmitting MIDI data. Connect the other end of the MIDI cable to the MIDI IN terminal of another instrument. This terminal is used, for example, to generate sound from a connected instrument by playing this instrument.

MIDI IN
Used for receiving MIDI data. Connect the other end of the MIDI cable to the MIDI OUT terminal of another instrument. This terminal is used, for example, to generate sound from this instrument by playing a connected instrument.

AUX IN (stereo pin cord)
Connect to the **LINE OUT** terminal of another instrument to this terminal. The sound from a connected CD player, for example, can be output from this instrument's speakers.

FOOT SW
An optional **SZ-P1** Foot Switch (sold separately) can be connected to this terminal to control various functions.

PHONES/LINE OUT (output level 1.5 Vrms, 16 Ω)
Headphones, a keyboard amplifier, or stereo equipment can be connected to this terminal. When another apparatus is connected to this terminal, the speaker system is automatically switched off, and sound is heard only through the connected device.

Separately sold option

SZ-P1 Foot Switch

MIDI IMPLEMENTATION CHART

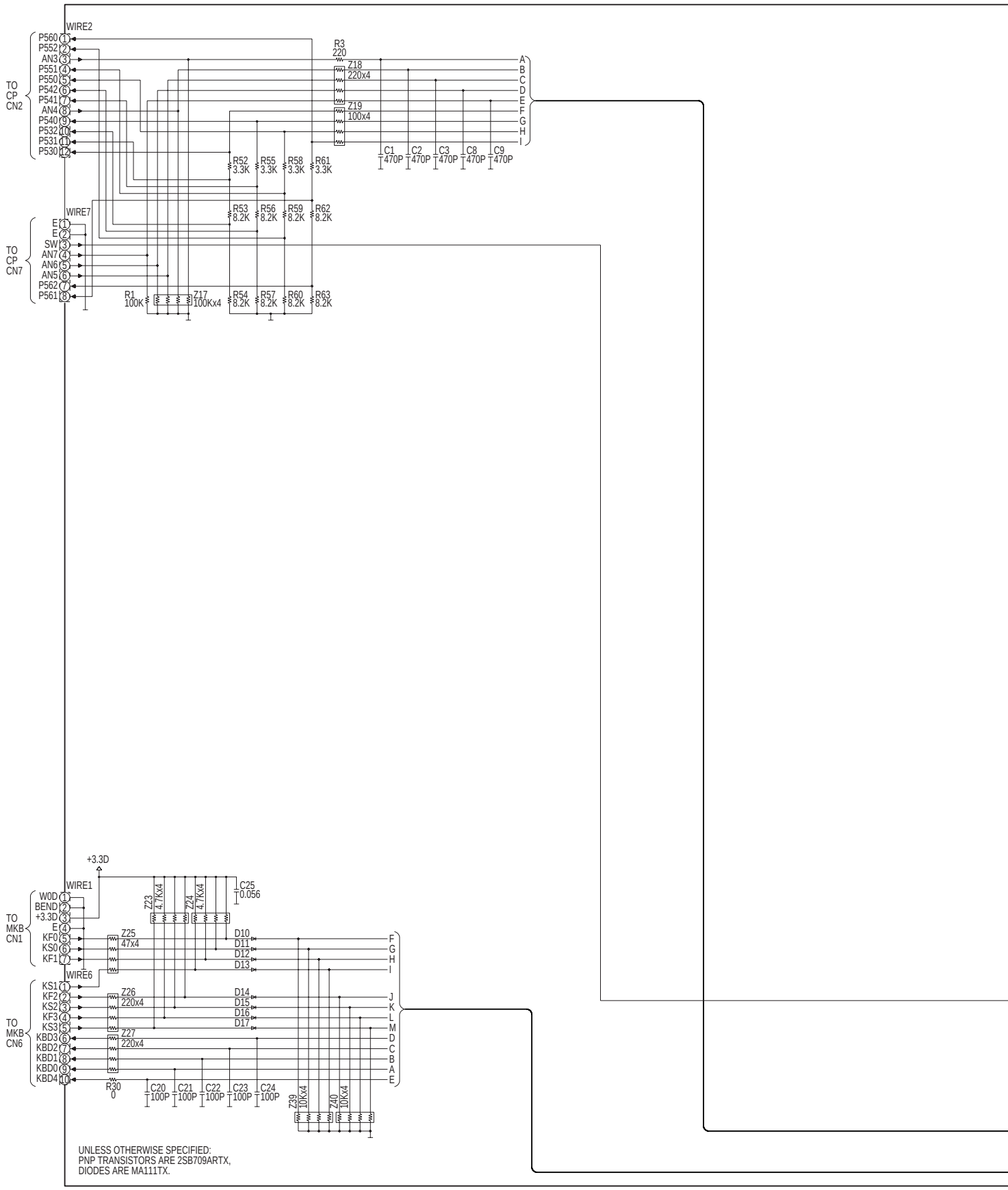
Keyboard [SX-KC200]

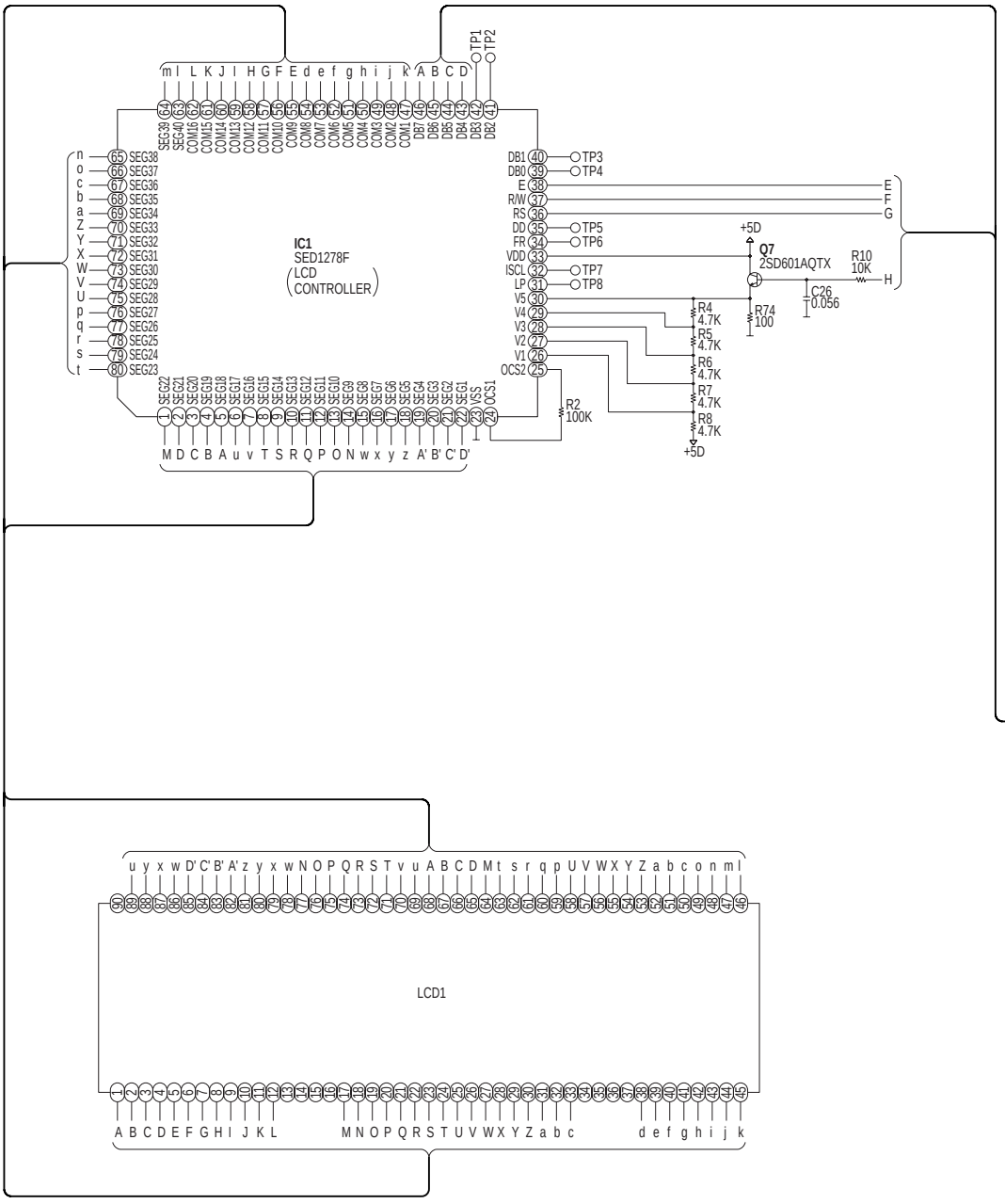
Function		Transmitted	Recognized	Remarks
Basic Channel	Default	1–16	1–16	memorized
	Changed	1–16	1–16	
Mode	Default	3	3	OMNI OFF, POLY Mode
	Messages	×	×	
	Altered	—	—	
Note Number		0–127	0–127	
	True voice	—	0–127	
Velocity	Note ON	○	○	
	Note OFF	×	×	
After Touch	Key's	×	×	
	Ch's	×	○	
Pitch Bend		×	○	
Control Change	0,32	○	○	bank sel MSB/LSB
	1	×	○	modulation
	6,38	×	○	data entry MSB/LSB
	7	○	○	volume
	10	○	○	panpot
	11	×	○	expression
	64	○	○	sustain
	100,101	×	○	RPN LSB/MSB
	120	×	○	all sound off
	121	×	○	reset all controllers
Prog Change		○	○	
	True #	—	0–127	
System Exclusive		○	○	
System common	Song Pos	×	×	
	Song Sel	×	×	
	Tune	×	×	
System Real Time	Clock	○ ×	○ ×	
	Commands	○ ×	○ ×	start/stop, continue
Aux Mes-sages	Local ON/OFF	×	×	
	All Notes OFF	×	○	
	Active Sense	○	○	
	Reset	×	×	
Notes		○ × ····· Whether or not the data for each of these items is transmitted/recognized can be set.		

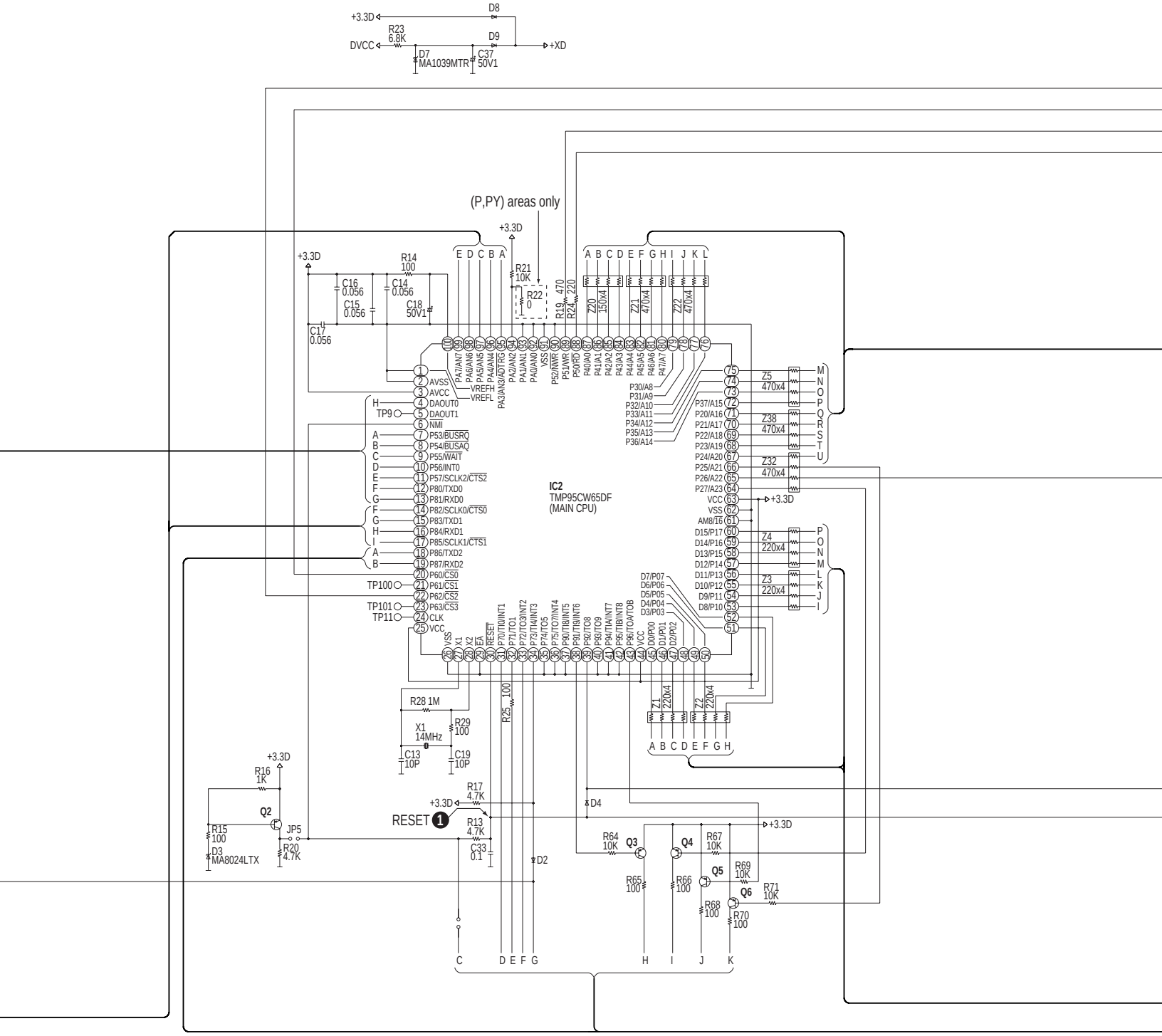
Mode 1 : OMNI ON, POLY
Mode 2 : OMNI ON, MONO
Mode 3 : OMNI OFF, POLY
Mode 4 : OMNI OFF, MONO

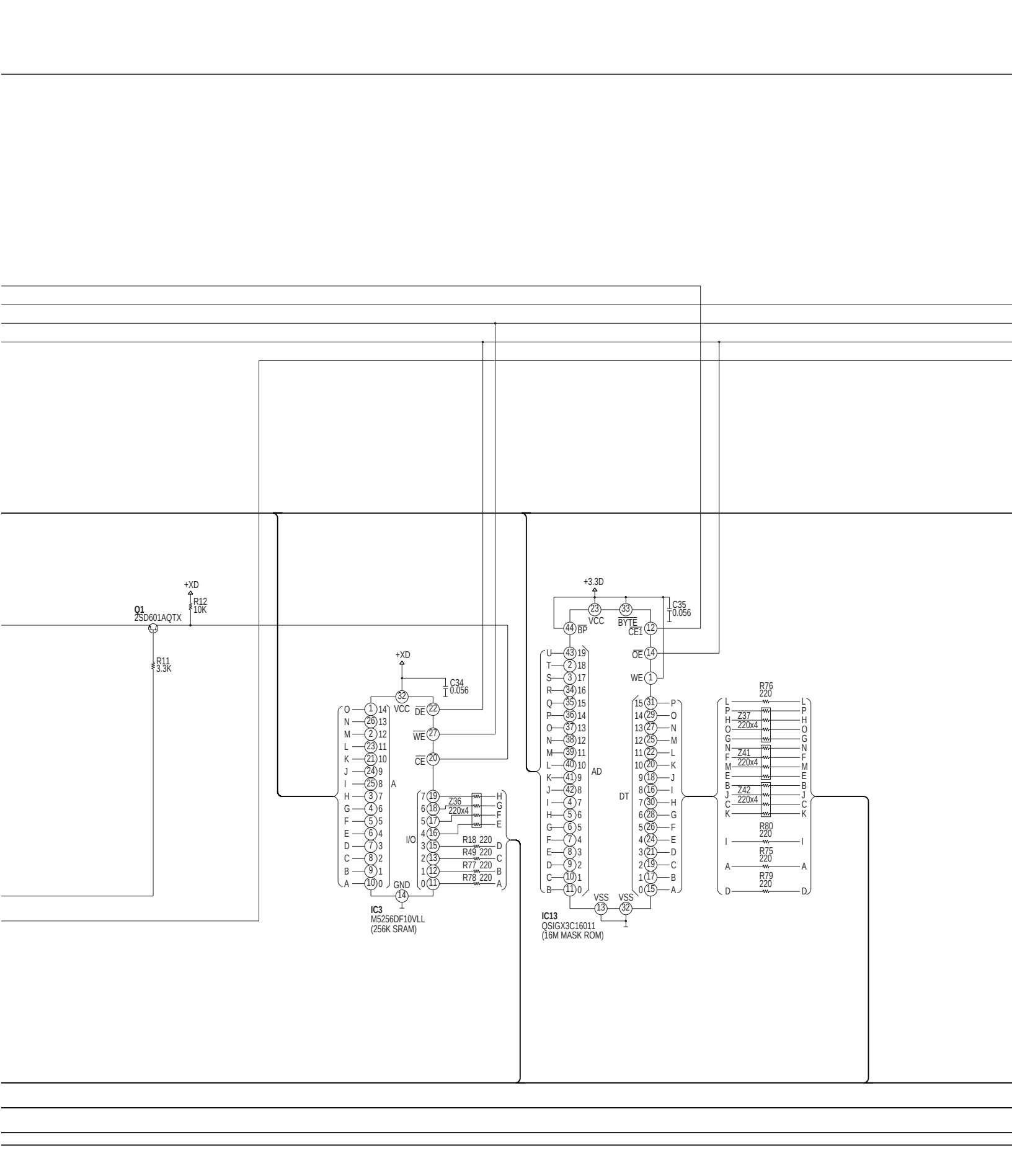
○ : Yes
× : No

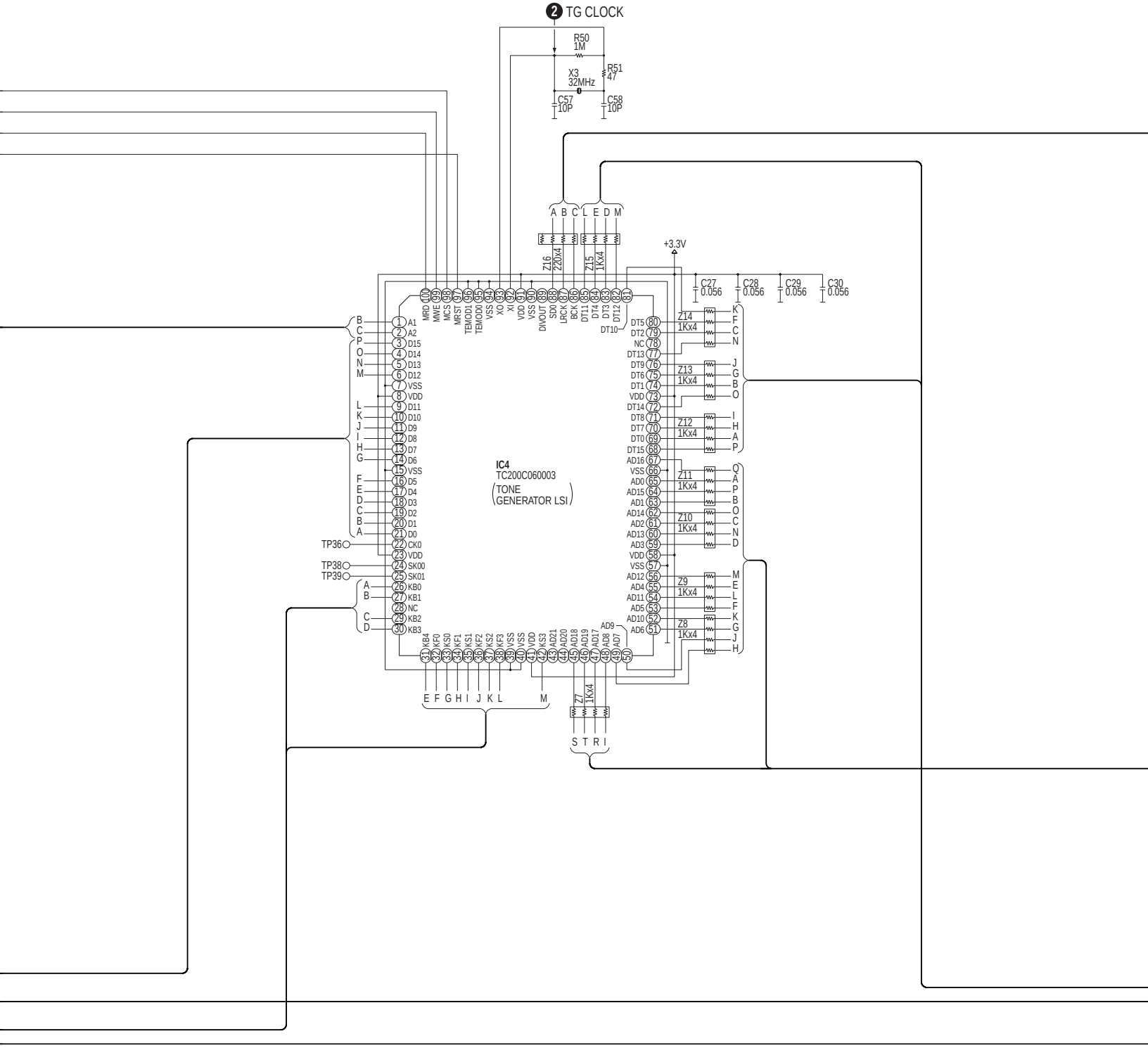
A MAIN CIRCUIT

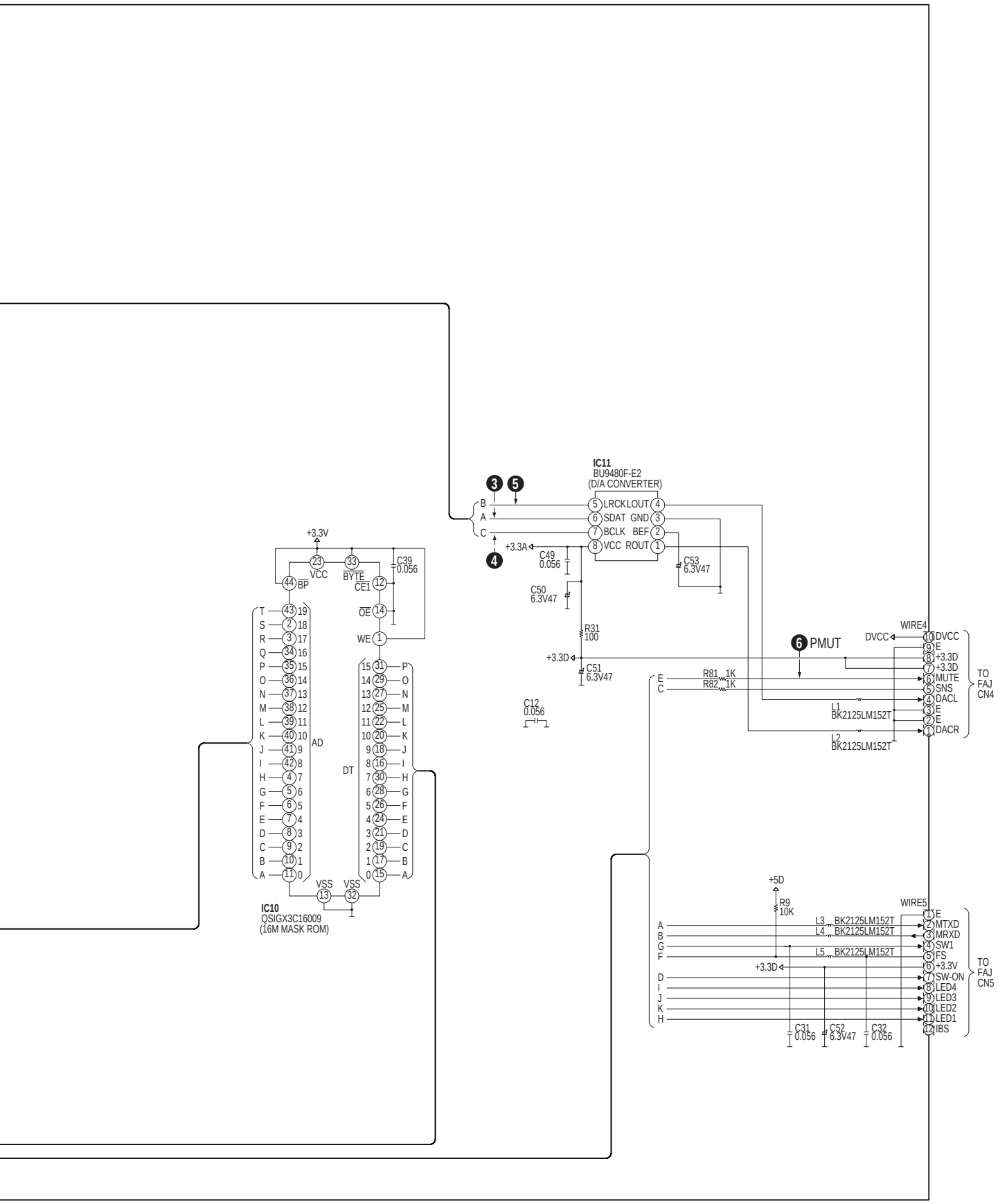



IC1
SED1278F
LCD
CONTROLLER
Q7
2SD601AQTX
+5D
R10
10K
C26
0.056
R74
100
R4
4.7K
R5
4.7K
R6
4.7K
R7
4.7K
R8
4.7K
R2
100K
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
LCD1

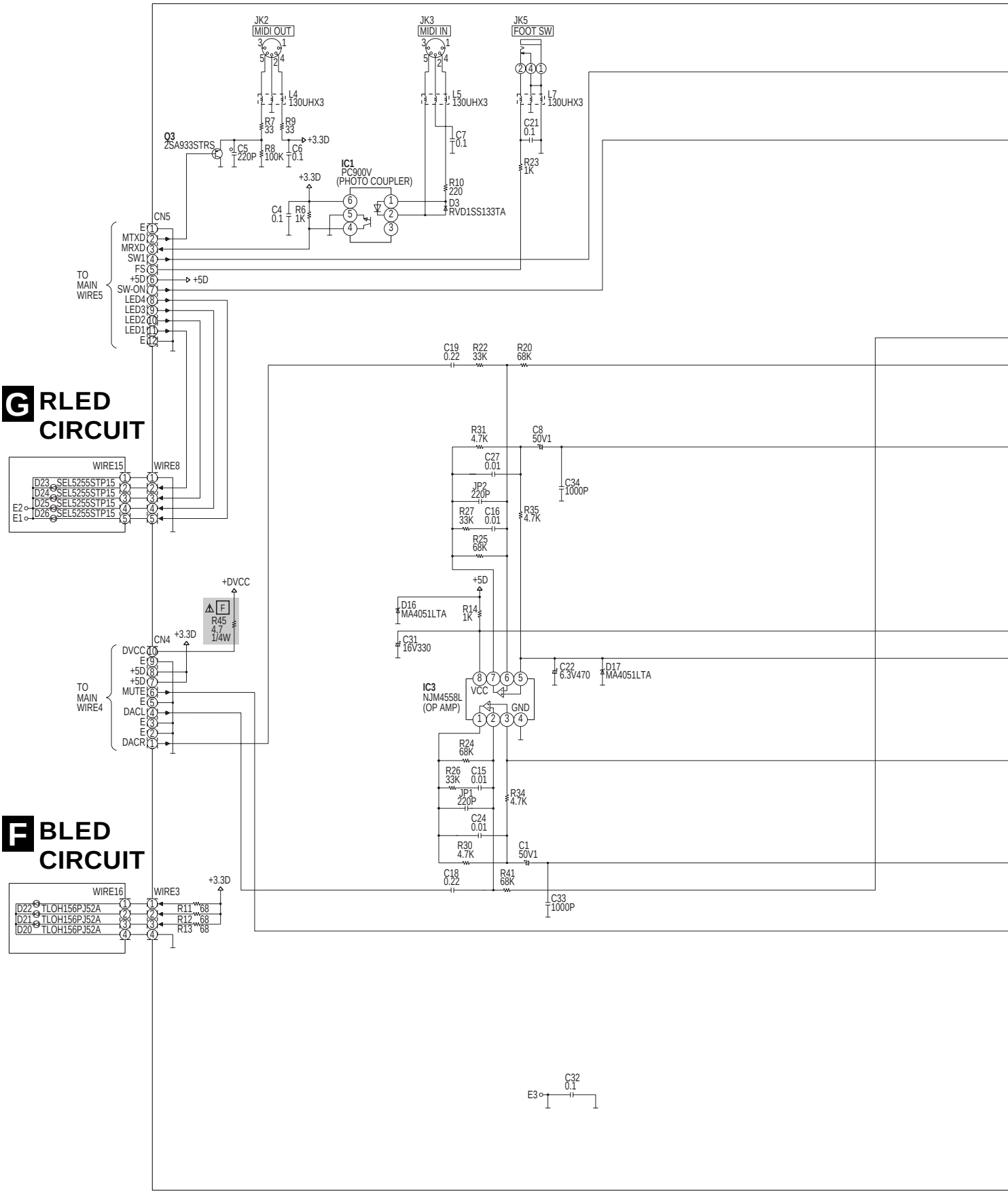

+3.3D
D8
R23
6.8K
D9
DVCC
+XD
D7
MA1039MTR
C37
50V1
(P,PY) areas only
IC2
TMP95CW65DF
(MAIN CPU)
R14
100
C16
0.056
C14
0.056
C15
0.056
C18
50V1
C17
0.056
R21
10K
R22
0
R19
470
R24
220
Z20
150x4
Z21
470x4
Z22
470x4
Z5
470x4
Z38
470x4
Z32
470x4
Z4
220x4
Z3
220x4
Z1
220x4
Z2
220x4
AVSS
AVCC
VREFH
VREFL
DAOUT0
DAOUT1
NMI
P53/BUSRQ
P54/BUSAQ
P55/WAIT
P56/INT0
P57/SCLK2/CTS2
P80/TXD0
P81/RXD0
P82/SCLK0/CTS0
P83/TXD1
P84/RXD1
P85/SCLK1/CTS1
P86/TXD2
P87/RXD2
P60/CS0
P61/CS1
P62/CS2
P63/CS3
CLK
VCC
VSS
VCC
AM8/I16
TP9
TP100
TP101
TP11
R28 1M
X1
14MHz
R29
100
C13
10P
C19
10P
R25 100
R16
1K
Q2
R15
100
D3
MA8024LTX
JP5
R20
4.7K
R17
4.7K
RESET
R13
4.7K
C33
0.1
D2
D4
R64
10K
Q3
Q4
R67
10K
R65
100
R66
100
Q5
R69
10K
Q6
R71
10K
R68
100
R70
100


+XD
R12
10K
Q1
2SD601AQTX
R11
3.3K
+XD
C34
0.056
VCC
DE
WE
CE
I/O
GND
A
Z36
220x4
R18 220
R49 220
R77 220
R78 220
IC3
M5256DF10VLL
(256K SRAM)
+3.3D
C35
0.056
VCC
BYTE
BP
CE1
OE
WE
AD
DT
VSS
VSS
IC13
QSIGX3C16011
(16M MASK ROM)
R76
220
Z37
220x4
Z41
220x4
Z42
220x4
R80
220
R75
220
R79
220


2 TG CLOCK
R50
1M
X3
32MHz
R51
47
C57
10P
C58
10P
A B C L E D M
Z16
220X4
Z15
1KX4
+3.3V
C27
0.056
C28
0.056
C29
0.056
C30
0.056
IC4
TC200C060003
(TONE
GENERATOR LSI)
Z14
1KX4
Z13
1KX4
Z12
1KX4
Z11
1KX4
Z10
1KX4
Z9
1KX4
Z8
1KX4
Z7
1KX4
TP36
TP38
TP39
E F G H I J K L
M
S T R I

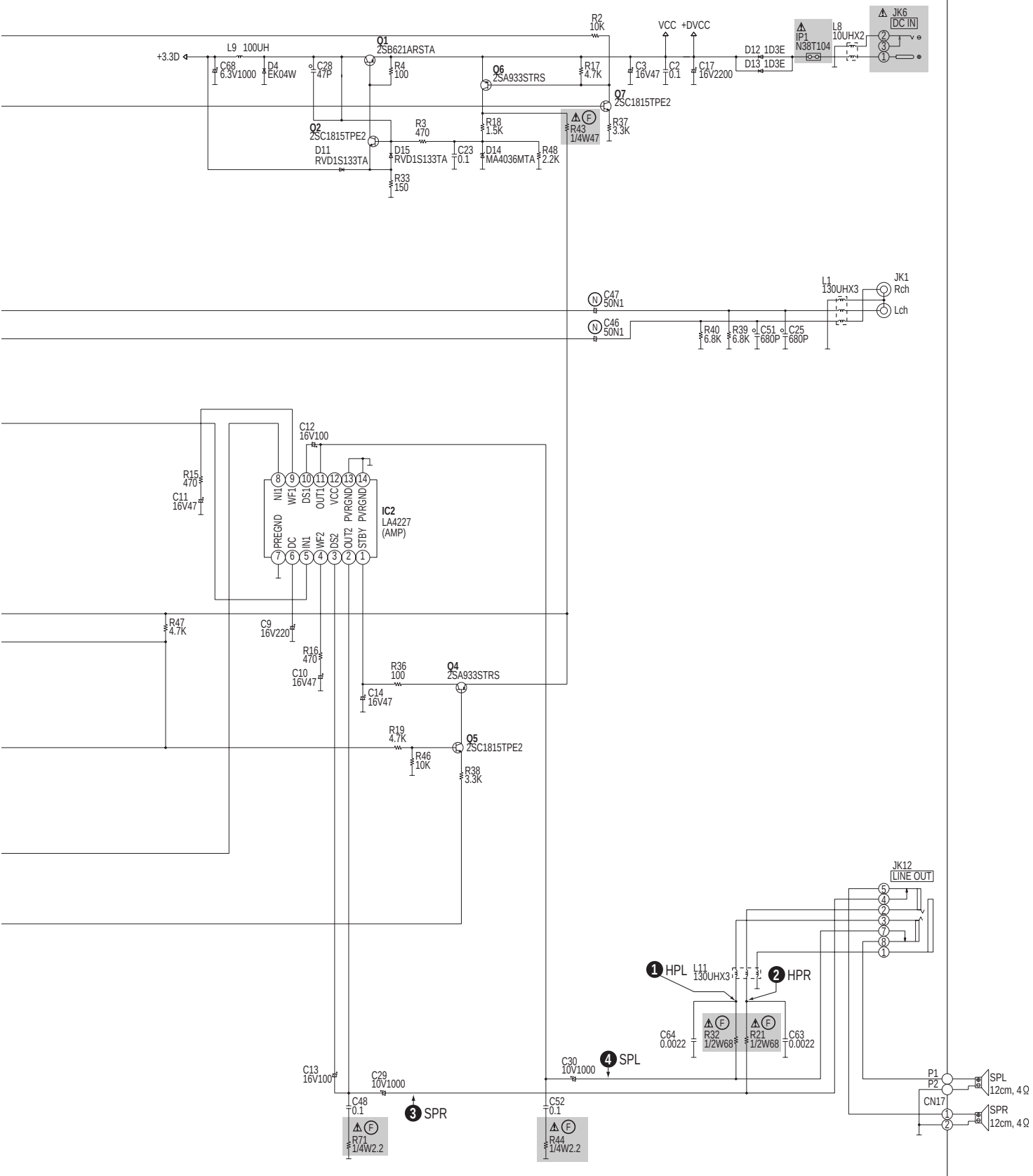

IC11
BU9480F-E2
(D/A CONVERTER)
LRCK LOUT
SDAT GND
BCLK BEF
VCC ROUT
+3.3A
C49 0.056
C50 6.3V47
C53 6.3V47
R31 100
+3.3D
C51 6.3V47
C12 0.056
6 PMUT
WIRE4
DVCC
E
+3.3D
+3.3D
MUTE
SNS
DACL
E
E
DACR
TO FAJ CN4
R81 1K
R82 1K
L1 BK2125LM152T
L2 BK2125LM152T
+3.3V
VCC
BYTE
BP
CE1
OE
WE
C39 0.056
AD
DT
VSS
VSS
IC10
QSIGX3C16009
(16M MASK ROM)
+5D
R9 10K
WIRE5
E
MTXD
MRXD
SW1
FS
+3.3V
SW-ON
LED4
LED3
LED2
LED1
IBS
TO FAJ CN5
L3 BK2125LM152T
L4 BK2125LM152T
L5 BK2125LM152T
C31 0.056
C52 6.3V47
C32 0.056

B FAJ CIRCUIT

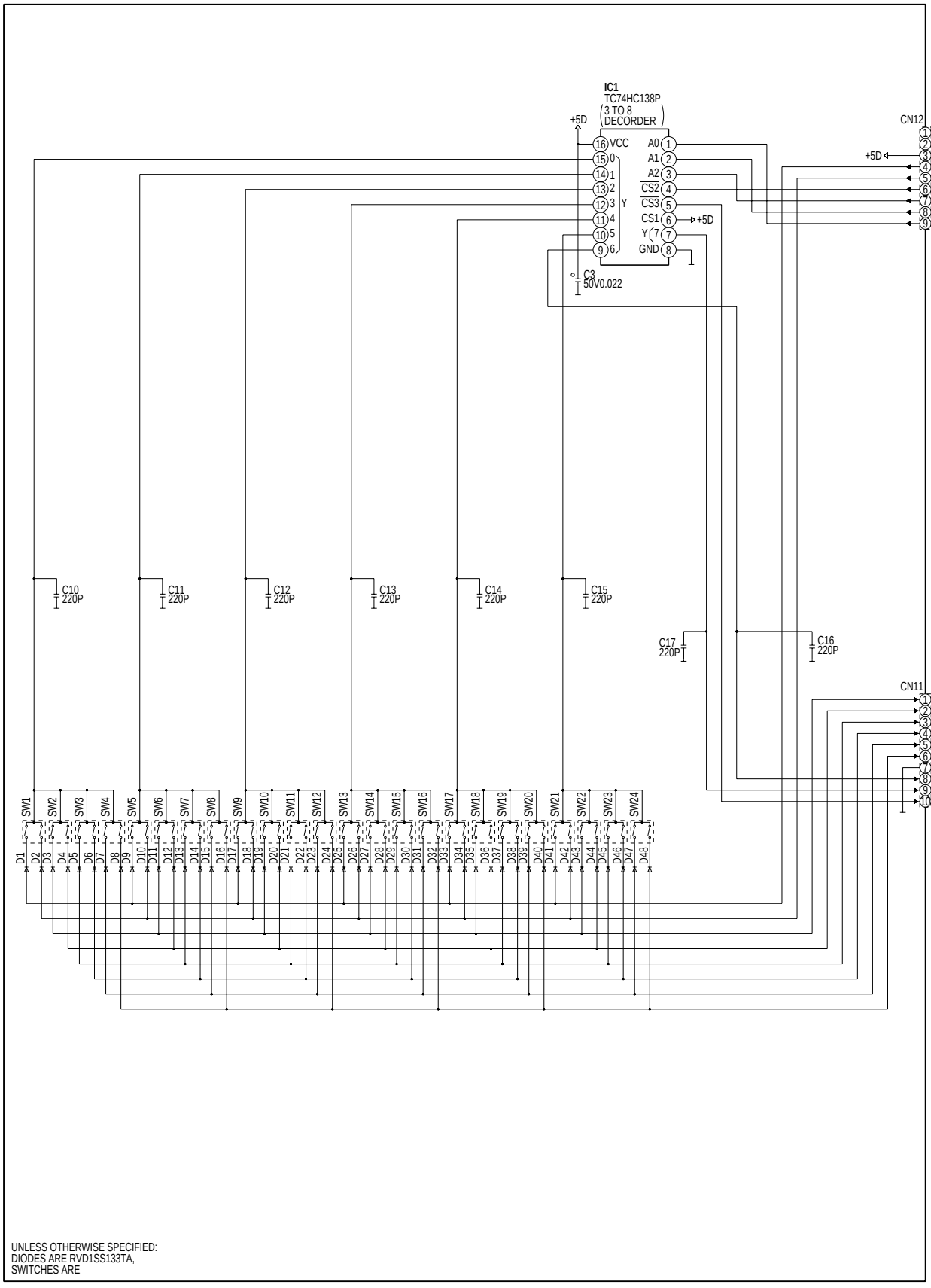


G RLED CIRCUIT

F BLED CIRCUIT

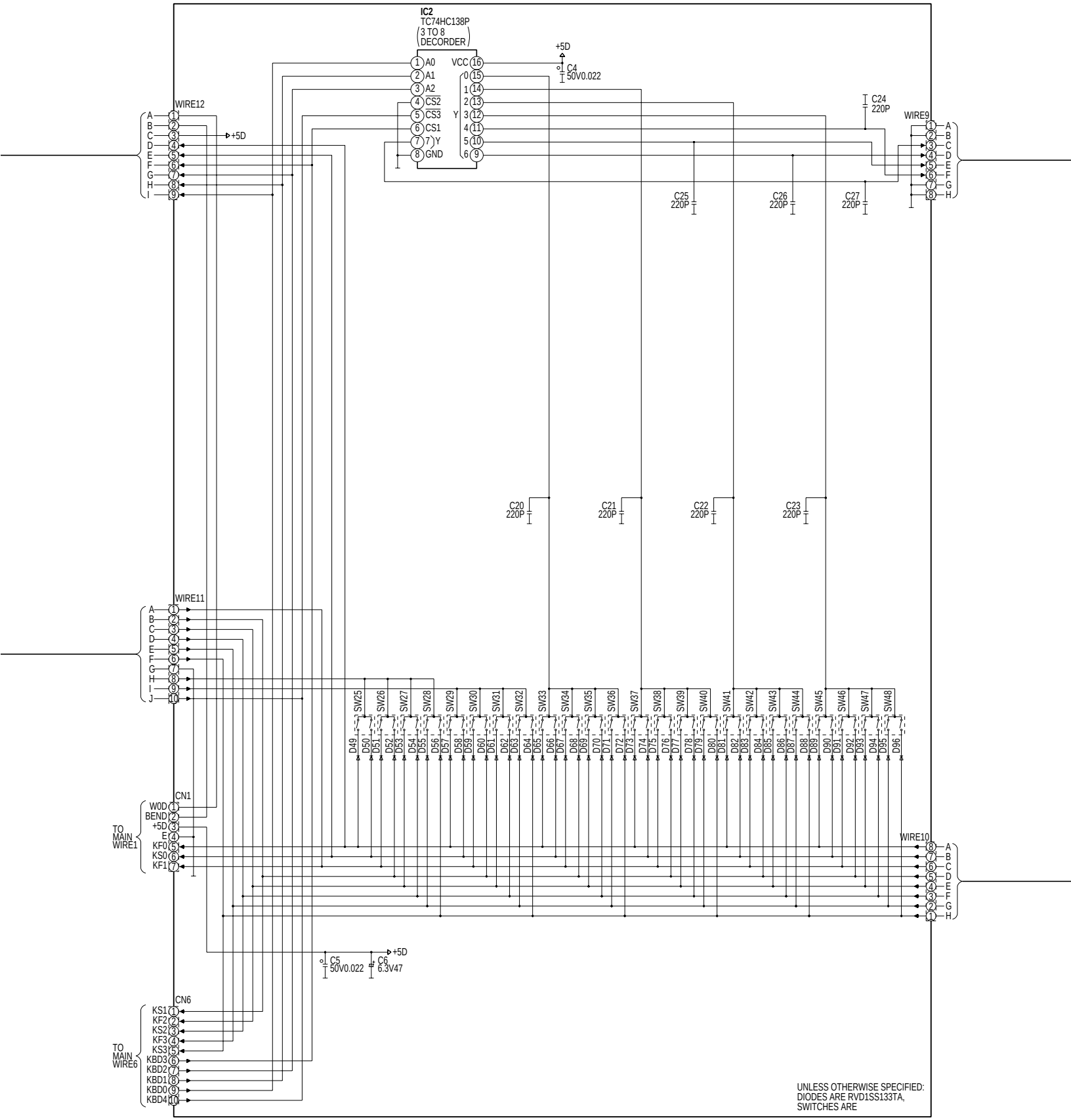

+3.3D
L9 100UH
C68 6.3V1000
D4 EK04W
C28 47P
Q1 2SB621ARSTA
R4 100
Q6 2SA933STRS
R2 10K
R17 4.7K
VCC +DVCC
C3 16V47
C2 0.1
C17 16V2200
D12 1D3E
D13 1D3E
IP1 N38T104
L8 10UHX2
JK6 DC IN
Q7 2SC1815TPE2
Q2 2SC1815TPE2
R3 470
R18 1.5K
R43 1/4W47
R37 3.3K
D11 RVD1S133TA
D15 RVD1S133TA
C23 0.1
D14 MA4036MTA
R48 2.2K
R33 150
C47 50N1
C46 50N1
L1 130UHX3
JK1 Rch Lch
R40 6.8K
R39 6.8K
C51 680P
C25 680P
C12 16V100
R15 470
C11 16V47
IC2 LA4227 (AMP)
NI1 WF1 DS1 OUT1 VCC PVRGND PVRGND
PREGND DC IN1 WF2 DS2 OUT2 STBY
R47 4.7K
C9 16V220
R16 470
C10 16V47
R36 100
Q4 2SA933STRS
C14 16V47
R19 4.7K
Q5 2SC1815TPE2
R46 10K
R38 3.3K
JK12 LINE OUT
HPL
L11 130UHX3
HPR
C64 0.0022
R32 1/2W68
R21 1/2W68
C63 0.0022
C30 10V1000
SPL
C13 16V100
C29 10V1000
C48 0.1
SPR
C52 0.1
R71 1/4W2.2
R44 1/4W2.2
P1
P2
CN17
SPL 12cm, 4Ω
SPR 12cm, 4Ω

C MKB1 CIRCUIT

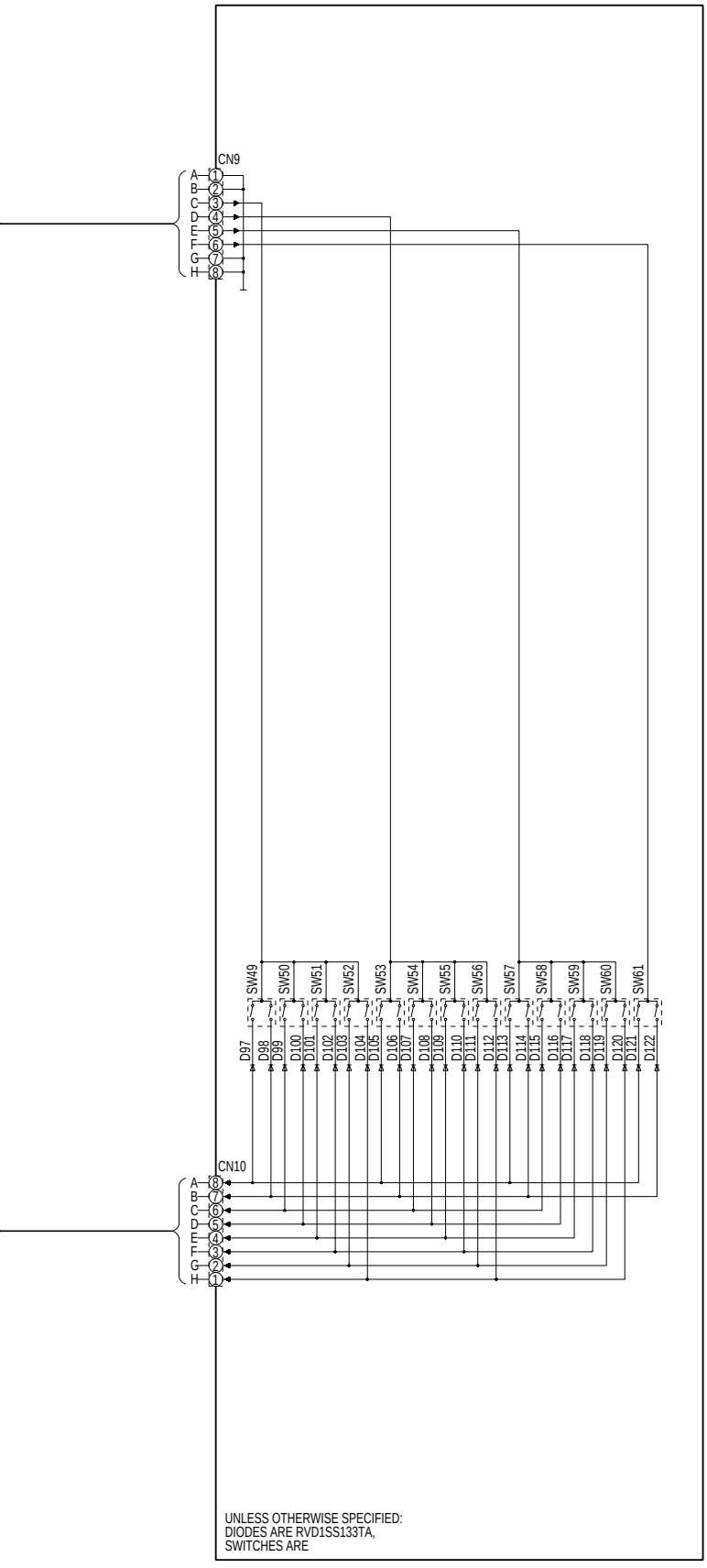


UNLESS OTHERWISE SPECIFIED:
DIODES ARE RVD1SS133TA,
SWITCHES ARE

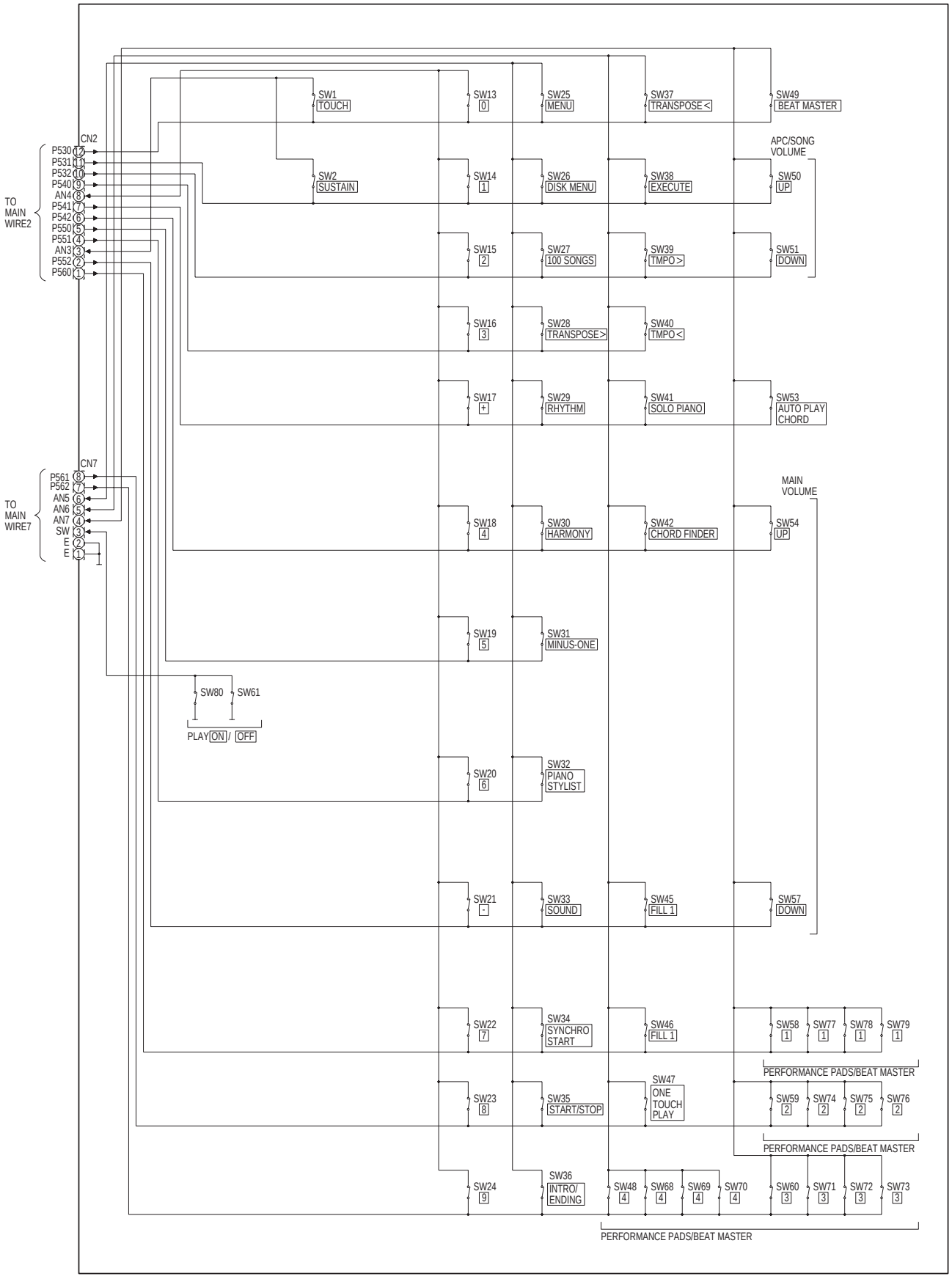
D MKB2 CIRCUIT

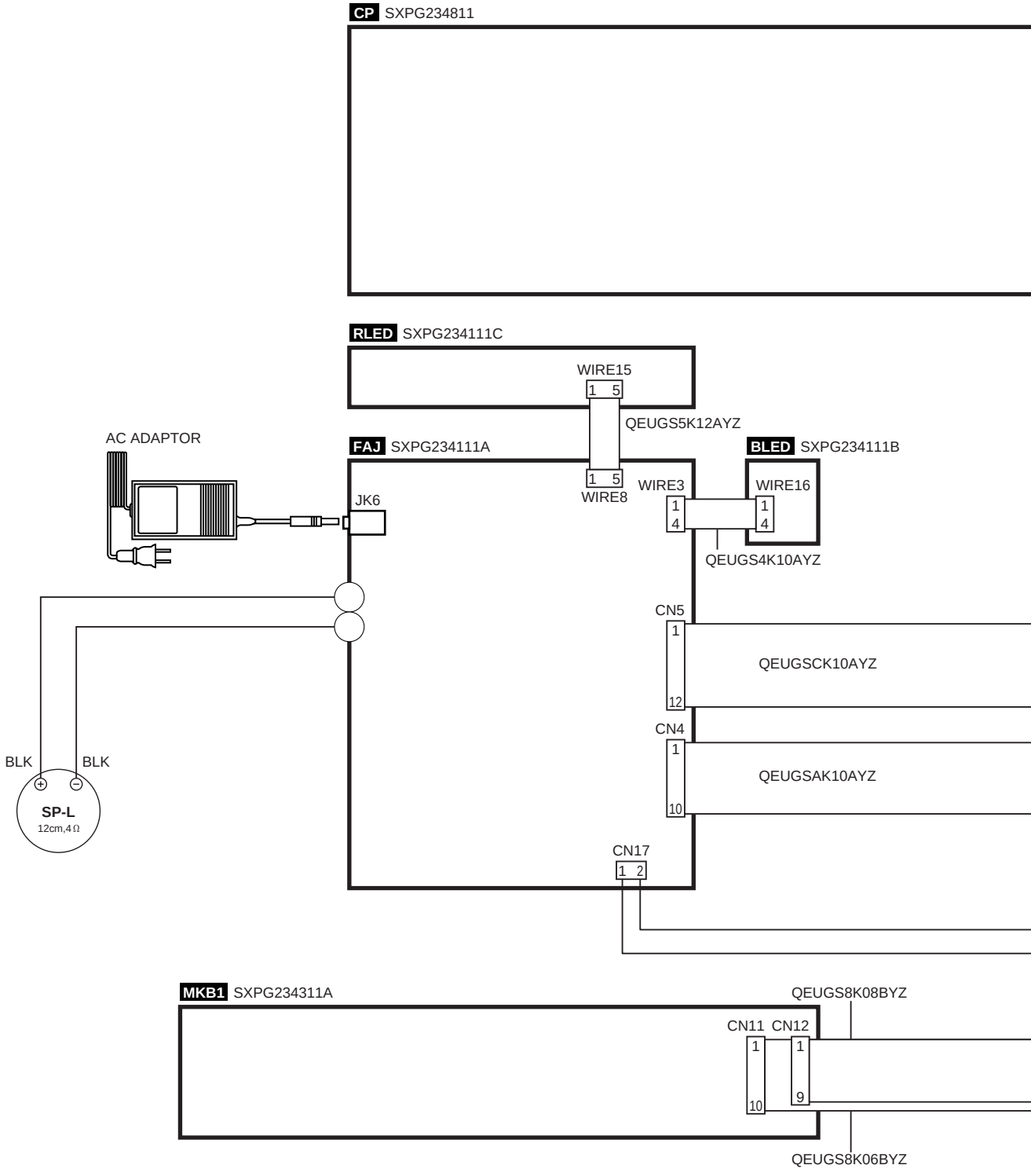


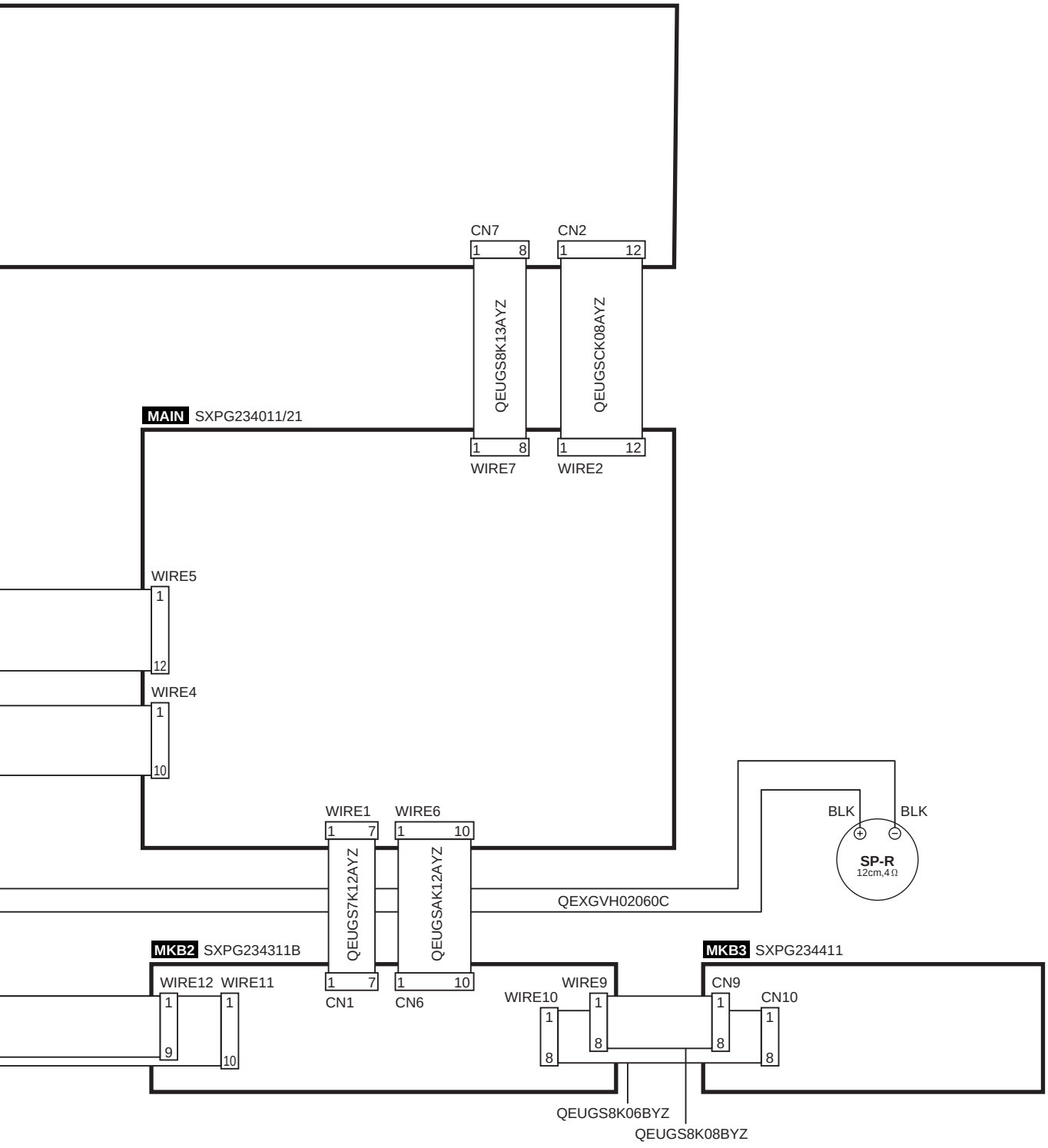
MKB3 CIRCUIT

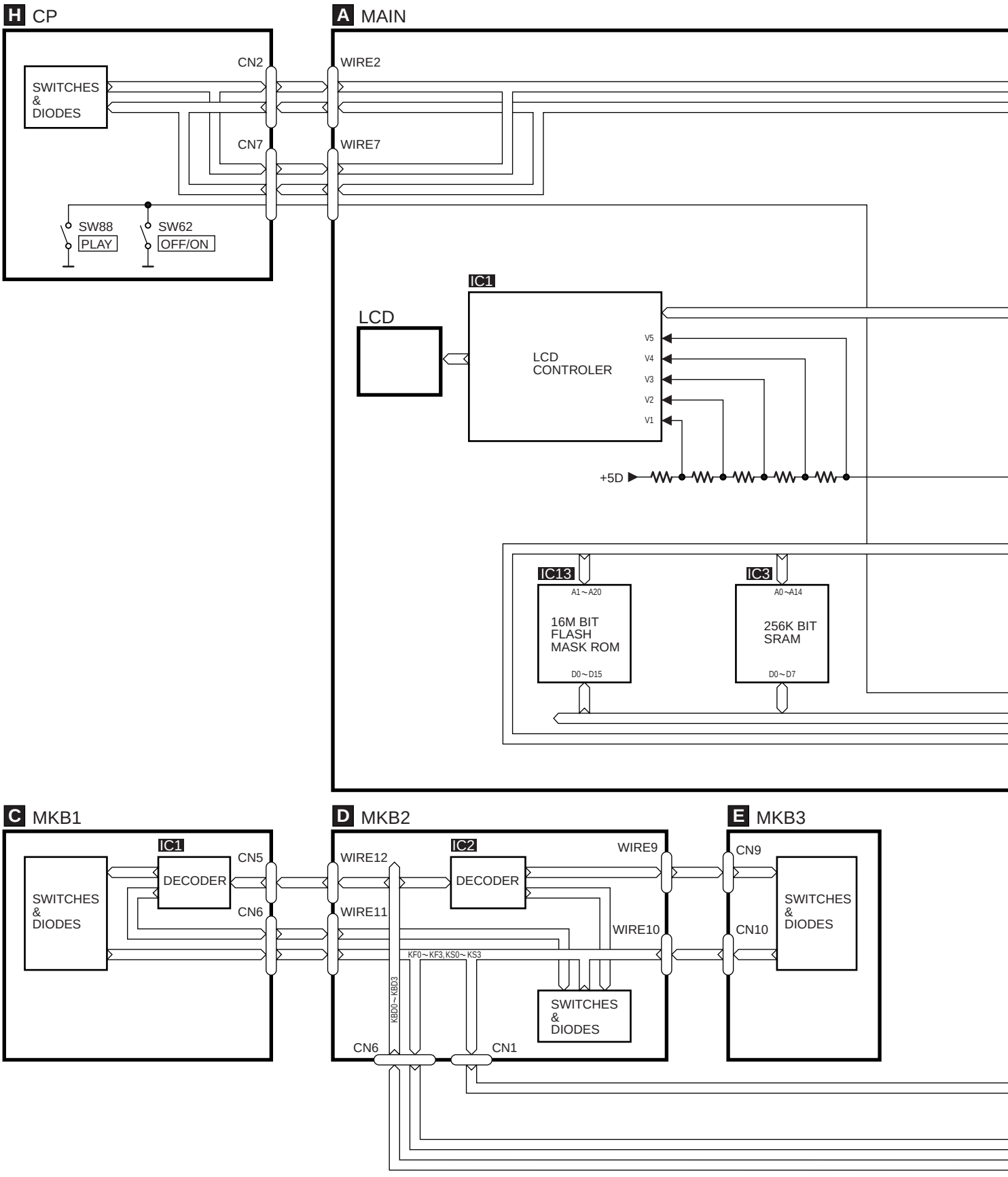


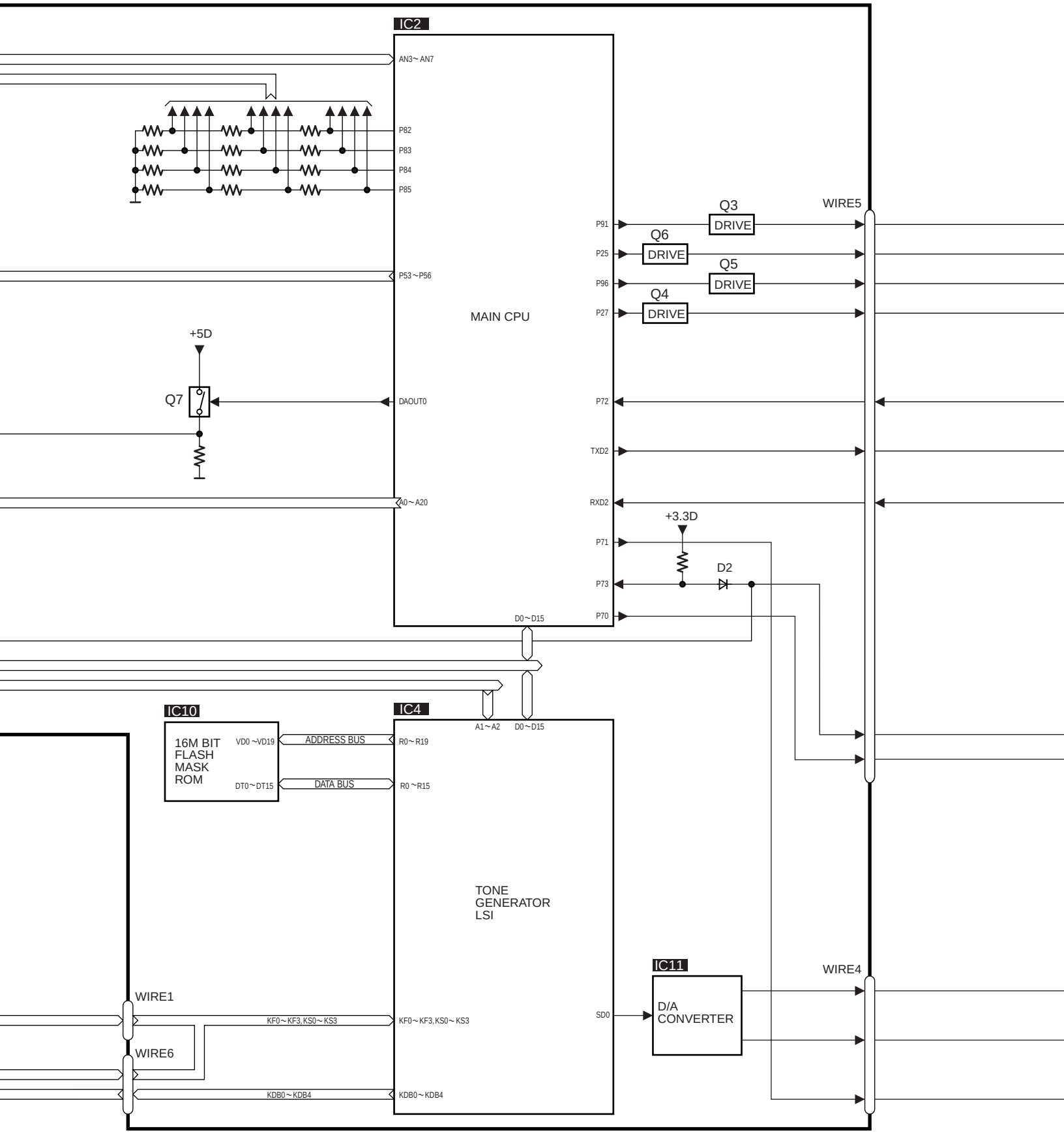
HCP CIRCUIT

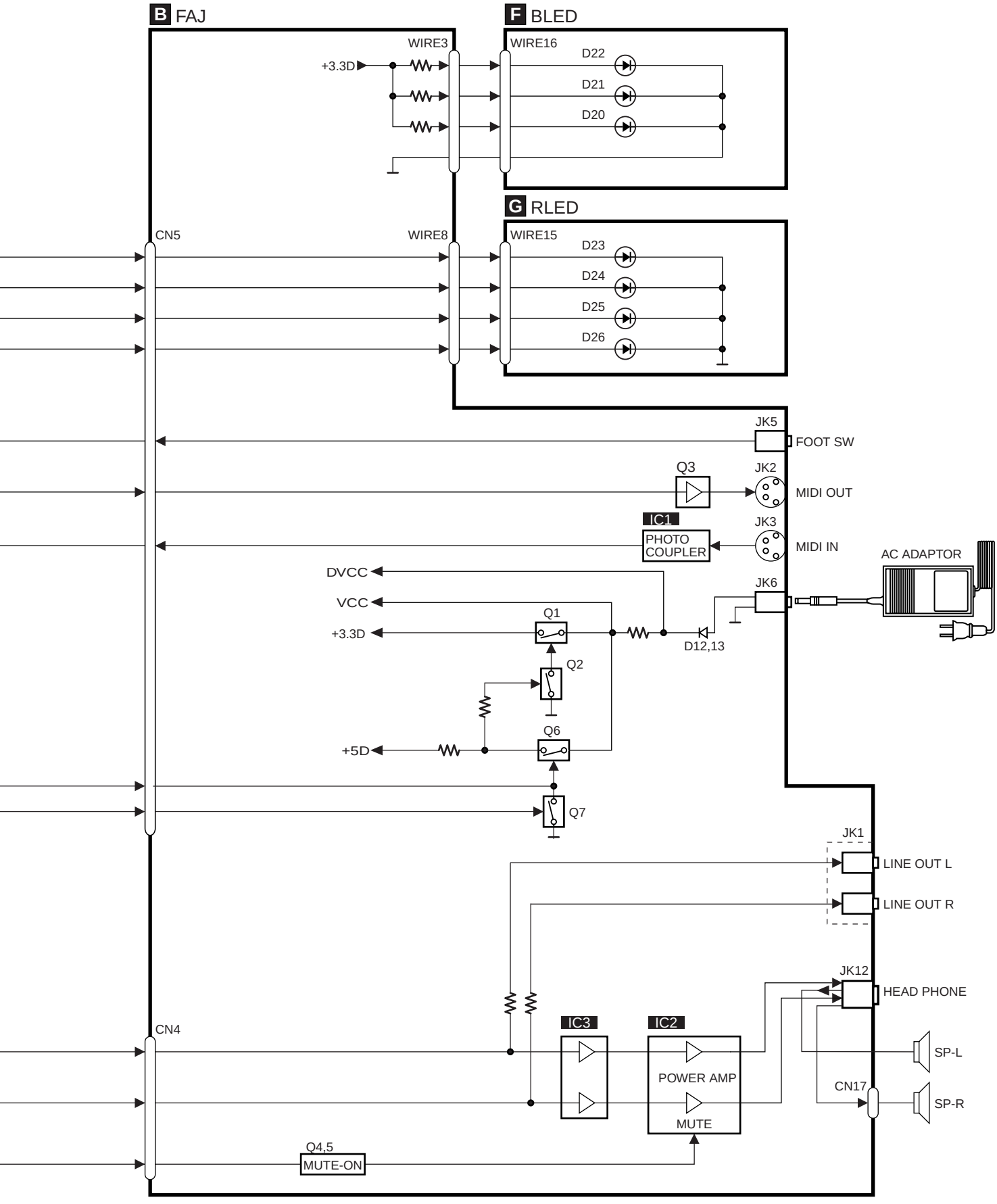

CN2
P530 12
P531 11
P532 10
P540 9
AN4 8
P541 7
P542 6
P550 5
P551 4
AN3 3
P552 2
P560 1
TO MAIN WIRE2
CN7
P561 8
P562 7
AN5 6
AN6 5
AN7 4
SW 3
E 2
E 1
TO MAIN WIRE7
SW1 TOUCH
SW2 SUSTAIN
SW13 0
SW14 1
SW15 2
SW16 3
SW17 +
SW18 4
SW19 5
SW20 6
SW21 -
SW22 7
SW23 8
SW24 9
SW25 MENU
SW26 DISK MENU
SW27 100 SONGS
SW28 TRANSPOSE>
SW29 RHYTHM
SW30 HARMONY
SW31 MINUS-ONE
SW32 PIANO STYLIST
SW33 SOUND
SW34 SYNCHRO START
SW35 START/STOP
SW36 INTRO/ ENDING
SW37 TRANSPOSE<
SW38 EXECUTE
SW39 TMPO>
SW40 TMPO<
SW41 SOLO PIANO
SW42 CHORD FINDER
SW45 FILL 1
SW46 FILL 1
SW47 ONE TOUCH PLAY
SW48 4
SW49 BEAT MASTER
APC/SONG VOLUME
SW50 UP
SW51 DOWN
SW53 AUTO PLAY CHORD
MAIN VOLUME
SW54 UP
SW57 DOWN
SW58 1
SW77 1
SW78 1
SW79 1
PERFORMANCE PADS/BEAT MASTER
SW59 2
SW74 2
SW75 2
SW76 2
PERFORMANCE PADS/BEAT MASTER
SW68 4
SW69 4
SW70 4
SW60 3
SW71 3
SW72 3
SW73 3
PERFORMANCE PADS/BEAT MASTER
SW80
SW61
PLAY ON / OFF


CP SXPG234811
RLED SXPG234111C
WIRE15
1 5
QEUGS5K12AYZ
AC ADAPTOR
FAJ SXPG234111A
BLED SXPG234111B
1 5
WIRE8
WIRE3
WIRE16
1
4
1
4
JK6
QEUGS4K10AYZ
CN5
1
12
QEUGSCK10AYZ
CN4
1
10
QEUGSAK10AYZ
BLK
BLK
SP-L
12cm,4Ω
CN17
1 2
MKB1 SXPG234311A
QEUGS8K08BYZ
CN11 CN12
1
10
1
9
QEUGS8K06BYZ

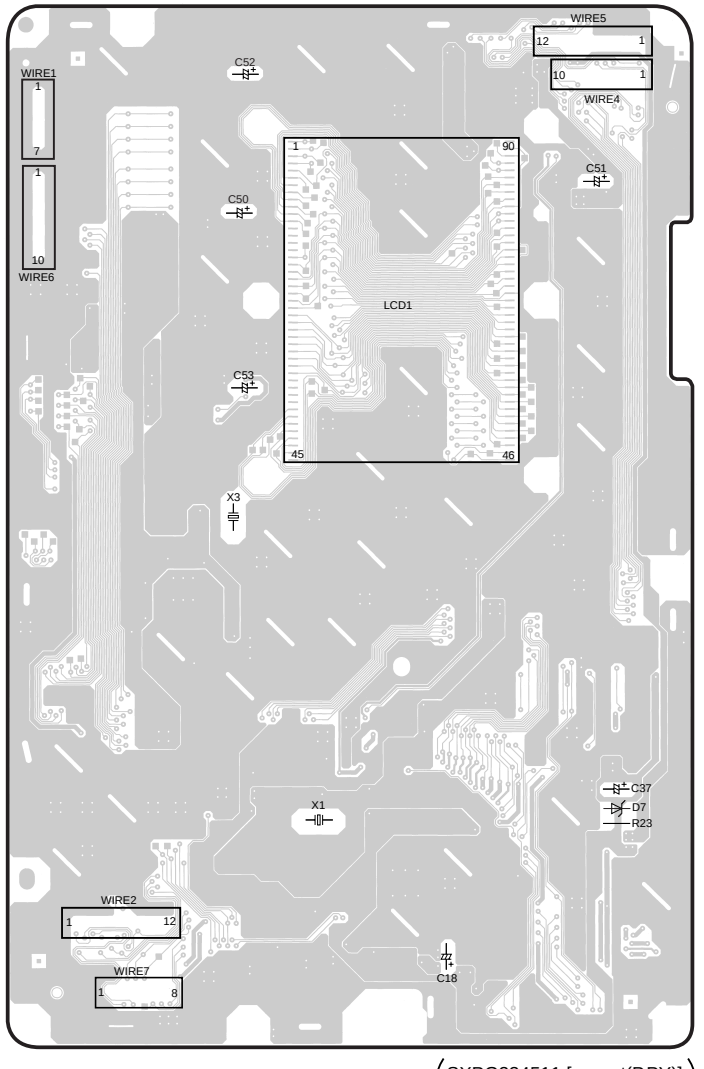

CN7
1 8
CN2
1 12
QEUGS8K13AYZ
QEUGSCK08AYZ
1 8
1 12
WIRE7
WIRE2
MAIN SXPG234011/21
WIRE5
1
12
WIRE4
1
10
WIRE1
WIRE6
1 7
1 10
QEUGS7K12AYZ
QEUGSAK12AYZ
BLK
BLK
SP-R
12cm,4Ω
QEXGVH02060C
MKB2 SXPG234311B
MKB3 SXPG234411
WIRE12
WIRE11
1
9
1
10
1 7
1 10
CN1
CN6
WIRE10
WIRE9
CN9
CN10
1
8
1
8
1
8
1
8
QEUGS8K06BYZ
QEUGS8K08BYZ


H CP
A MAIN
SWITCHES & DIODES
CN2
CN7
WIRE2
WIRE7
SW88
PLAY
SW62
OFF/ON
IC1
LCD
LCD CONTROLER
V5
V4
V3
V2
V1
+5D
IC13
A1～A20
16M BIT FLASH MASK ROM
D0～D15
IC3
A0～A14
256K BIT SRAM
D0～D7
C MKB1
IC1
DECODER
CN5
CN6
D MKB2
IC2
WIRE12
WIRE11
WIRE9
WIRE10
KF0～KF3, KS0～KS3
KBD0～KBD3
SWITCHES & DIODES
CN6
CN1
E MKB3
CN9
CN10


IC2
AN3～AN7
P82
P83
P84
P85
P53～P56
MAIN CPU
+5D
Q7
DAOUT0
A0～A20
P91
P25
P96
P27
Q3
Q6
Q5
Q4
DRIVE
WIRE5
P72
TXD2
RXD2
+3.3D
P71
P73
P70
D2
D0～D15
IC10
16M BIT
FLASH
MASK
ROM
VD0～VD19
DT0～DT15
ADDRESS BUS
DATA BUS
IC4
A1～A2
D0～D15
R0～R19
R0～R15
TONE
GENERATOR
LSI
IC11
D/A
CONVERTER
SD0
WIRE4
WIRE1
WIRE6
KF0～KF3, KS0～KS3
KDB0～KDB4


B FAJ
F BLED
G RLED
WIRE3
+3.3D
WIRE16
D22
D21
D20
WIRE8
WIRE15
D23
D24
D25
D26
CN5
JK5
FOOT SW
Q3
JK2
MIDI OUT
IC1
PHOTO COUPLER
JK3
MIDI IN
AC ADAPTOR
DVCC
VCC
+3.3D
Q1
JK6
D12,13
Q2
+5D
Q6
Q7
JK1
LINE OUT L
LINE OUT R
JK12
HEAD PHONE
CN4
IC3
IC2
POWER AMP
MUTE
SP-L
CN17
SP-R
Q4,5
MUTE-ON

A MAIN P.C.B. (COMPONENT SIDE)

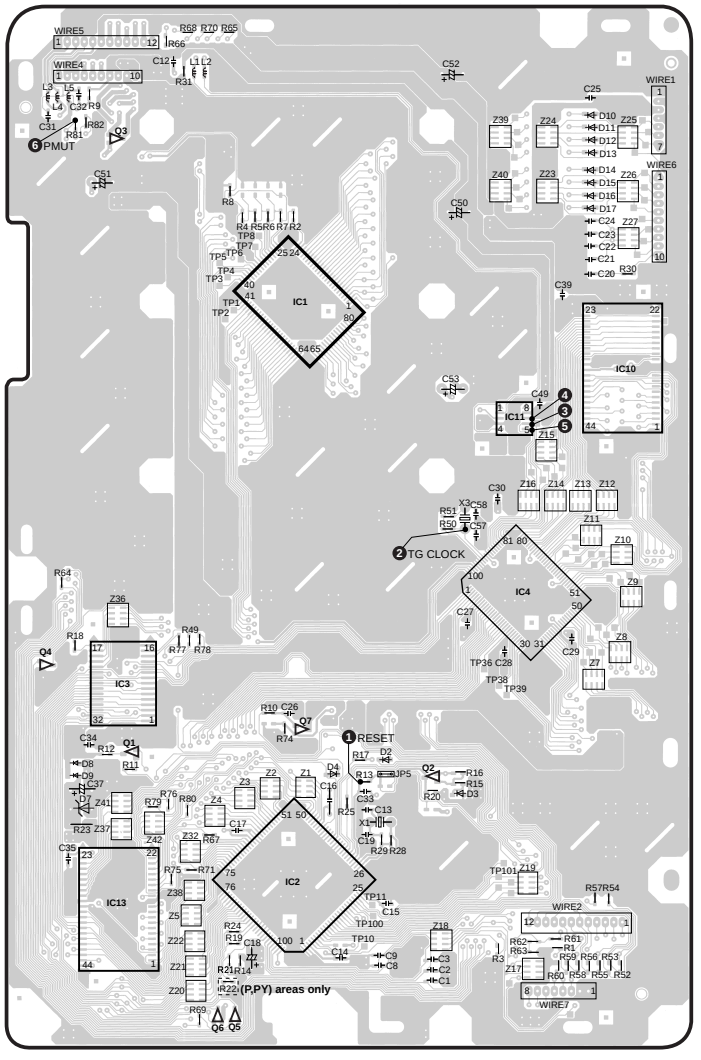


(SXPG234511 [except(P,PY)]
SXPG234521 (P,PY))

ELECTRICAL
PARTS LOCATION

Ref.No.	Lo.No.
A MAIN P.C.B.	
D7	C-5
WIRE1	A-2
WIRE2	A-5
WIRE4	C-2
WIRE5	C-1
WIRE6	A-2
WIRE7	A-6
X1	B-5
X3	B-3
R23	C-5
C18	C-5
C37	C-5
C50	B-2
C51	C-2
C52	B-2
C53	B-3

A MAIN P.C.B. (FOIL SIDE)

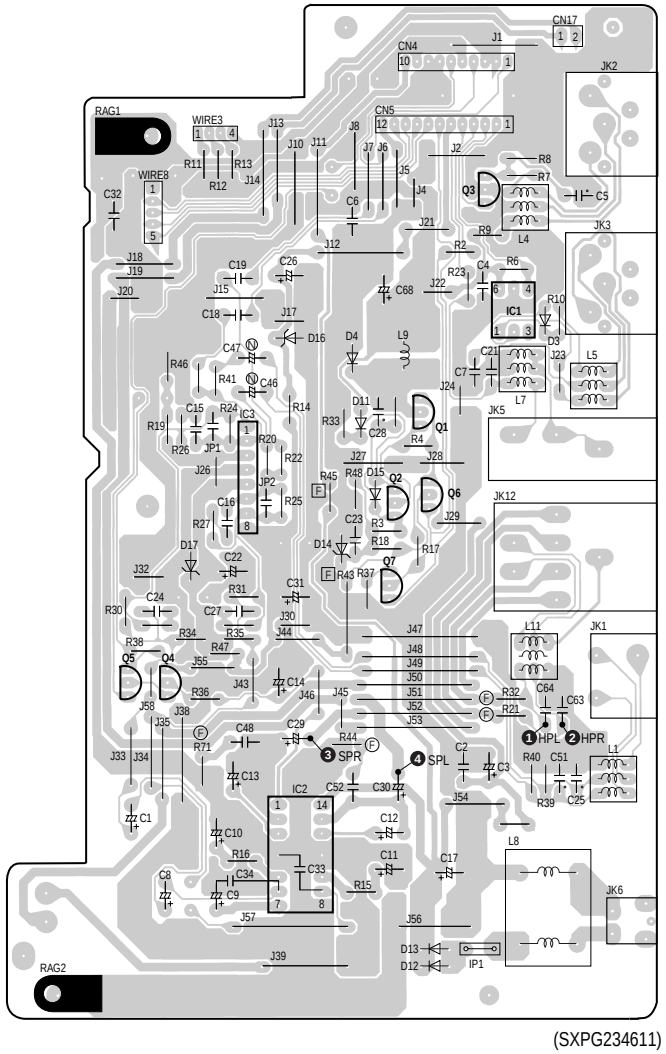


(SXPG234511 [except(P,PY)]
SXPG234521 (P,PY))

ELECTRICAL PARTS LOCATION

Ref.No.	Lo.No.	Ref.No.	Lo.No.	Ref.No.	Lo.No.
A MAIN P.C.B.					
IC1	B-3	Z32	B-5	R61	C-5
IC2	B-5	Z36	A-4	R62	C-5
IC3	A-4	Z37	A-5	R63	C-5
IC4	C-4	Z38	B-5	R64	A-4
IC10	C-3	Z39	C-2	R65	B-1
IC11	C-3	Z40	C-2	R66	A-1
IC13	A-5	Z41	A-5	R67	B-5
Q1	A-4	Z42	A-5	R68	B-1
Q2	C-5	L1	B-1	R69	B-6
Q3	A-2	L2	B-1	R70	B-1
Q4	A-4	L3	A-2	R71	B-5
Q5	B-6	L4	A-2	R74	B-4
Q6	B-6	L5	A-2	R75	B-5
Q7	B-4	R1	C-5	R76	A-5
D2	B-4	R2	B-2	R77	B-4
D3	C-5	R3	C-5	R78	B-4
D4	B-5	R4	B-2	R79	A-5
D8	A-5	R5	B-2	R80	B-5
D9	A-5	R6	B-2	R81	A-2
D10	C-2	R7	B-2	R82	A-2
D11	C-2	R8	B-2	C1	C-5
D12	C-2	R9	A-2	C2	C-5
D13	C-2	R10	B-4	C3	C-5
D14	C-2	R11	A-5	C8	B-5
D15	C-2	R12	A-4	C9	B-5
D16	C-2	R13	B-5	C12	B-1
D17	C-2	R14	B-5	C13	B-5
Z1	B-5	R15	C-5	C14	B-5
Z2	B-5	R16	C-5	C15	B-5
Z3	B-5	R17	B-5	C16	B-5
Z4	B-5	R18	A-4	C17	B-5
Z5	B-5	R19	B-5	C19	B-5
Z7	C-4	R20	C-5	C20	C-2
Z8	C-4	R21	B-5	C21	C-2
Z9	D-4	R22	B-6	C22	C-2
Z10	C-4	R24	B-5	C23	C-2
Z11	C-3	R25	B-5	C24	C-2
Z12	C-3	R28	B-5	C25	C-2
Z13	C-3	R29	B-5	C26	B-4
Z14	C-3	R30	D-2	C27	C-4
Z15	C-3	R31	B-2	C28	C-4
Z16	C-3	R49	B-4	C29	C-4
Z17	C-5	R50	C-3	C30	C-3
Z18	C-5	R51	C-3	C31	A-2
Z19	C-5	R52	C-5	C32	A-2
Z20	B-6	R53	C-5	C33	B-5
Z21	B-5	R54	C-5	C34	A-4
Z22	B-5	R55	C-5	C35	A-5
Z23	C-2	R56	C-5	C39	C-2
Z24	C-2	R57	C-5	C49	C-3
Z25	D-2	R58	C-5	C57	C-4
Z26	D-2	R59	C-5	C58	C-3
Z27	D-2	R60	C-5	JP5	B-5

B FAJ P.C.B.



(SXPG234611)

ELECTRICAL PARTS LOCATION

Ref.No.	Lo.No.	Ref.No.	Lo.No.	Ref.No.	Lo.No.
B FAJ P.C.B.					
IC1	C-3	R14	B-3	C10	B-5
IC2	B-5	R15	B-5	C11	B-5
IC3	B-3	R16	B-5	C12	B-5
Q1	C-3	R17	C-4	C13	B-5
Q2	B-3	R18	B-4	C14	B-4
Q3	C-2	R19	A-3	C15	B-3
Q4	A-4	R20	B-3	C16	B-3
Q5	A-4	R21	C-4	C17	C-5
Q6	C-3	R22	B-3	C18	B-3
Q7	B-4	R23	C-2	C19	B-2
D3	C-3	R24	B-3	C21	C-3
D4	B-3	R25	B-3	C22	B-4
D11	B-3	R26	B-3	C23	B-3
D12	C-5	R27	B-3	C24	A-4
D13	C-5	R30	A-4	C25	C-5
D14	B-4	R31	B-4	C26	B-2
D15	B-3	R32	C-4	C27	B-4
D16	B-3	R33	B-3	C28	B-3
D17	B-4	R34	B-4	C29	B-4
CN4	C-1	R35	B-4	C30	B-5
CN5	C-2	R36	B-4	C31	B-4
CN17	C-1	R37	B-4	C32	A-2
WIRE3	B-2	R38	A-4	C33	B-5
WIRE8	A-2	R39	C-5	C34	B-5
L1	C-5	R40	C-5	C46	B-3
L4	C-2	R41	B-3	C47	B-3
L5	C-3	R43	B-4	C48	B-4
L7	C-3	R44	B-4	C51	C-5
L8	C-5	R45	B-3	C52	B-5
L9	C-3	R46	A-3	C63	C-4
L11	C-4	R47	B-4	C64	C-4
R2	C-2	R48	B-3	C68	B-2
R3	C-3	R71	B-4	IP1	C-5
R4	C-3	C1	A-5	JK1	C-4
R6	C-2	C2	C-5	JK2	C-2
R7	C-2	C3	C-5	JK3	C-2
R8	C-2	C4	C-2	JK5	C-3
R9	C-2	C5	C-2	JK6	C-5
R10	C-3	C6	B-2	JK12	C-3
R11	B-2	C7	C-3	JP1	B-3
R12	B-2	C8	A-5	JP2	B-3
R13	B-2	C9	B-5		